ROUND THE YEAR IN THE GARDEN

H. H. THOMAS

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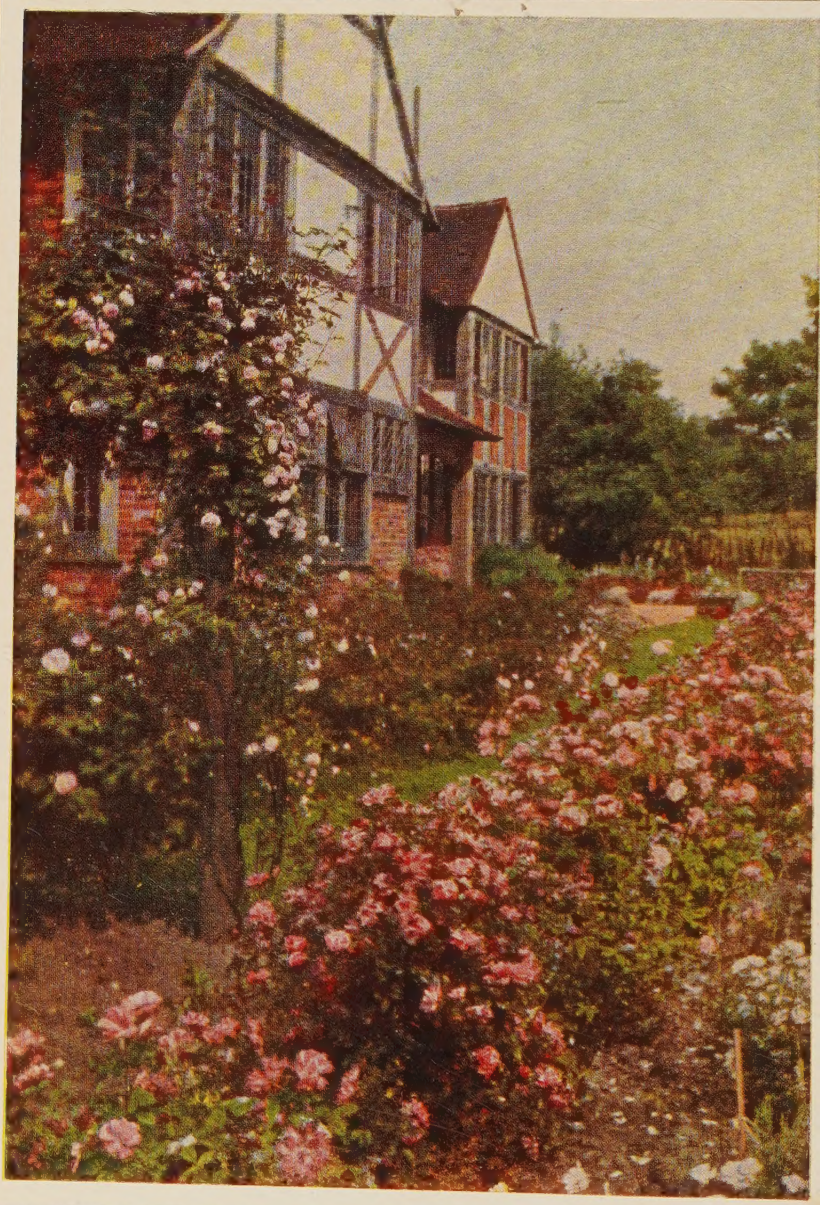

Borders of Fairy or Dwarf Polyantha Roses

ROUND THE YEAR IN THE GARDEN

A Descriptive Guide to the Flowers of the Four Seasons, and to the Work of each Month in the Flower, Fruit, and Kitchen Garden

By

H. H. THOMAS

Author of "The Ideal Garden," "The Rose Book," etc.
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PREFACE

ROUND THE YEAR IN THE GARDEN is an inexhaustible theme, to which I make no claim to have done full justice. Each month deserves a volume, the year a shelf of books. A perennial source of delight is found in watching the seasons round in a garden. One is taught to appreciate the joys of the present, to forget the disappointments of the past, and, with enthusiasm, to anticipate the promise of the future. Failures will be experienced, even the shadow of dismay may cloud the horizon, but the interest of the garden is so varied, so sustained, that the perplexities of one moment will be eclipsed by the pleasures of the next. Who feels bored in a garden must be a very dull person indeed—or a fair weather gardener, and for him there is no hope. It is not by planting in spring and gathering flowers in summer that the heart of the garden is won; rather is this aim achieved by an acquaintance which has deepened to friendship, and through friendship ripened to love.

ROUND THE YEAR IN THE GARDEN makes no pretence to be a complete "calendar of operations," though it is concerned in bringing to notice some of the flowers, fruits, and vegetables of the seasons, and in indicating the chief garden work to be done

each month. In preparing the volume, an endeavour has been made to include information that is known to be of use and interest to amateur gardeners. It has proved impossible to describe in detail the hundred and one minor tasks which arise as the gardening seasons pass, yet the consolation remains that reference to much that is obvious and of comparatively little value has been avoided.

Some of the notes contained in the following pages have appeared in the *Morning Post*, and my acknowledgments are due to the Editor, Mr. H. A. Gwynne, for permission to make use of them here.

H. H. T.

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Round the Year in the Garden

OCTOBER

Looking Forward

WHO shall say when the year begins? For each and every one of us at different times; for someone it is always beginning. For myself, the year dawns when the flowers are fading, and the leaves change colour; when long nights succeed short days and sunshine is something to hope for; when the ground is sodden and the wind chants mournfully through the leafless trees, and fog and gloom settle upon the land. A mirthless picture indeed, yet—

> "Can Fancy's fairy hands no veil create
> To hide the sad realities of Fate?"

Verily, for the dawn of the garden year flushes the dim future with roseate hue, warming to fresh life the brown buds and bare twigs, and peopling with a thousand flowers the beds and borders now void of visible life. To every gardener who loves the earth and the flowers it yields, the passing of one year is but the advent of the next; thus is he able to dream such dreams and build such hopes as will ensure a garden of delight.

Gardening has its depressing moments, and it is as well to avoid them. While the flowers are sleeping let us draw chairs to the fire, warm our slippered feet, and pile up the catalogues that come by every post; let us

turn their pictured pages that portray the successes and ignore the failures, that show the results and make no mention of the labour. Thus shall we anticipate joyfully, look forward hopefully, and heigho! the garden is aglow with blossom — gorgeous Tulips here, there stately Hyacinths, elsewhere colonies of Squills and Fritillaries, and everywhere patches of white Snowdrops, blue and yellow Crocuses, and a host of others which the mind's eye readily conjures up. Even if some of the dreams prove false, the castles, seeming firm, prove but of air, we shall have laid the foundation of success which depends upon intelligent and enthusiastic anticipation.

Autumn shall be the dawn of our garden year. Let us dream of the good things the earth has in store, but let us not be laggard in enticement; it is certain that with the fullness of day, dreams will vanish—let it not be said that our labour has been in vain.

It is a far cry from October to April, and only experience can teach the wisdom of long preparation in advance; it is easier to plant bulbs at Christmas, when the season of their blossoming looms in sight, than in October, when the consummation of their beauty seems such a long way off. If words of mine fail to impress the reader with the value of timely preparation, let me record that in "The Garden that I Love," Veronica found that "Doing things in good time is the secret of successful gardening," and even Veronica's poet could find no words to gainsay its truth. If wise, we shall acknowledge autumn to be the chief season for planting. Well might we cry "The flowers are dead, Long live the flowers!" and forthwith prepare to crown queen the dawning year.

Among the Hardy Flowers

Strange and Familiar Bulbs.—So far as hardy kinds are concerned, it seems to be true that the smaller the

bulb the earlier you must plant it for, as a rule, the little ones are the first to bloom. September is the month in which to put in the Snowdrops, Crocuses, Squills, Grape Hyacinths, Fritillaries, and others; if they are still within their brown paper bags do not delay further but, wet or fine, put them in the ground. There are plenty of other kinds which may now worthily occupy our attention.

It is often urged against the professional gardener that he is ultra-conservative in his methods, but it is equally true of the amateur, so far as his selections are concerned, and especially with reference to bulbs. There is nothing to be said against the practice of filling one bed with Emperor, another with Empress Daffodils, and so on, except that it is very ordinary gardening and to be compared with planting the same beds in summer with Geranium and Calceolaria which, however greatly they may add to the gaiety of the garden, are painfully monotonous. Do not, I beg of you, continue to order just those ordinary kinds of bulbs which are to be seen in everyone else's garden; try others which may be but names to you. You may experience a few disappointments, but they will be as nothing in comparison with the delight that follows upon the discovery of some fresh treasure.

It must be confessed that some bulb catalogues are very ordinary, and one may search through them in vain for anything more thrilling than the usual Tulips, Hyacinths, Daffodils, and others equally common. But there are catalogues that describe black and green and fragrant Tulips; red Squills; Wood Anemones in white, yellow, blue and rose; remarkable Alliums (the Onion is an Allium); exquisite winter Crocuses; hardy Cyclamens; golden Fritillaries; giant Snowdrops; Irises that blossom in winter; white, blue and rose Grape Hyacinths; and Angel's Tears, Hoop Petticoat and Cyclamen-flowered Daffodils. With such flower wealth at command—why

continue to restrict your choice to those few kinds that are ubiquitous?

Half the joy of gardening lies in trying fresh flowers; why plant a garden at all, if only to use such plants as are grown to perfection in public parks and gardens? The garden at home should be different; it should possess individuality, even in its selection of bulbs. Having obtained the right catalogue, do not merely turn its pages casually with an admiring glance at its fine illustrations, but delve into the store of good things; order them and plant them and watch with a gardener's joy the coming to life of something you have never seen before. Then shall your garden have an interest perennial and ever new. Just a few words concerning planting, then together let us search a catalogue that I will choose.

Concerning planting.—Everyone knows that ordinary herbaceous plants grow better in ground that has been deeply dug and manured than in that which has been merely forked over; that is a truism. Yet lots of people believe that bulbs will grow anywhere. So they will, after a fashion; even if you plant Hyacinths (as I have seen done) so that only half the bulb is beneath the soil they will blossom, because, fortunately for the happy-go-lucky gardener, Hyacinths are more or less independent of soil and will flower if given only water in which to grow. But what a travesty of gardening such planting is! There is no need to dig a trench to grow bulbs to perfection, but the soil must be stirred to a reasonable depth, say 18 inches, which does not necessitate laborious digging. Given this, and as much sand as you can afford (all bulbs like plenty of sand), together with a fair sprinkling of bonemeal and wood ashes some 12 inches below the surface, and there remains but to plant the bulbs at the proper depth, and watch and wait for the first days of spring.

How deep should bulbs be planted? Some of the specialists put 6 inches of soil over their May-flowering

SPRINGTIME IN A LITTLE FORMAL GARDEN

LITTLE FORMAL GARDEN PLANTED WITH SNAPDRAGONS

SHASTA DAISY (CHRYSANTHEMUM MAXIMUM)

SUMMER STARWORT (ERIGERON QUAKERESS)

Tulips and vow that they are not too deep. Those of us who grow flowers in a more commonplace way say that you need only cover a bulb with rather more than twice its own depth of soil. I believe that flower connoisseurs are responsible for much of the doubt and perplexity which exist among amateurs. They "take up" a flower, and not satisfied with ordinary results, they delve and dig and coddle and fuss to such a frightful extent, that he who has grown similar flowers since he was a boy rubs his eyes and wonders what topsy-turvydom is this!

Ornamental Onions.—Let us now look through such a catalogue as I have mentioned, one in which figure strange and familiar bulbs, and fashion from its bewildering list a selection to suit the amateur who has a soul above that of the jobbing gardener. First on the list is Allium, which, in popular language, one may call ornamental Onion; all of them thrive in ordinary soil. The two commonest are Moly, which is yellow, and Neapolitanum, white. A striking kind with broad, oblong leaves and large round heads of rosy purple blossom, is karataviense; flavum with drooping heads of yellow blossom, and ursinum, having white flowers, are others to make a note of. All except karataviense are suitable for naturalising in grassy corners and other odd places. You have only to plant them from 2 to 4 inches deep, according to the size of the bulb, and leave them alone.

Those who have space on a warm border should plant the corms or roots of the South African Sword Lily (Antholyza paniculata), a plant with handsome leaves resembling those of Gladiolus, and bearing, in summer, spikes of crimson blossom. This is not to be recommended for indiscriminate planting, but for those who like to possess uncommon flowers of real worth. The border must be well drained, and the compost should be of loam or turfy soil, with which leaf soil and sand

are mixed. If the reader lives in a cold district, he should plant in spring and lift the roots in autumn, in the same way as those of Gladiolus.

Flowers for Odd Corners.—What is it that mars the charm of gardens so frequently? It is, I think, those bare, odd corners which are a kind of "no flower's land." They are dismissed with a shrug of the shoulders and the exclamation that "Nothing will grow there." But there *are* things that will grow there. Take for example the Arums or Dragon Flowers. One cannot pretend that they are pretty; some might regard them as unprepossessing; even then they must in justice ask "Are they less attractive than the soil and weeds they are destined to replace?" If planted in a moist and shady spot, they will give of their best, and one ought to be correspondingly grateful. Probably the best of all is Arum Dracunculus, 2 feet or rather more high, which bears a greenish spathe in July. Then there is the common Cuckoo Pint or Wake Robin of the hedgerows, (Arum maculatum), of which the spotted leaves are not unpleasing, though its chief glory is in autumn when the orange-coloured fruits glow brilliantly enough to bring a splash of colour to the darkest corner. If neither of these appeals I have still one more to bring to the gardener's notice, namely, Arum italicum, which has a pale, yellowish spathe in spring, and a second period of beauty in autumn, when the bright red fruits are held aloft on naked stem. There are even others, but our tour of the garden, if it is to be fairly comprehensive, must not be too detailed. It may be as well to explain the significance of a spathe. It is easily made clear by reference to the Arum Lily, which everyone knows; the white part of the Arum Lily is the spathe and the yellow central portion is the spadix. The flowers cluster upon the spadix and are insignificant.

Mariposa Lilies.—In strong contrast to the Arums are the Mariposa Lilies. If one confesses the Arums

to be "dull, but worthy," one may be excused for using laudatory adjectives in writing of the Calochortus, Mariposa Lily or Star Tulip. One ought really to say that the Star Tulips are, botanically distinct from the Mariposa Lilies, and were at one time included in a different genus, but as this is not a botanical treatise, they may well be grouped together, for they need similar treatment. They bear cup-shaped flowers in a variety of brilliant colours, and it is disappointing to record that one must provide them with rather special conditions. A warm, sunny border is essential; the next thing is to ensure perfect drainage, which is most readily accomplished if the soil is heavy by making a bed above the ground level. The compost they like best consists of peat and leaf soil, with plenty of silver sand intermixed; or one may dispense with the peat and use a little light loam instead. The chief point is to prepare a porous mixture. October is an excellent month in which to plant; the bulbs are placed 2 or 3 inches deep and about 4 inches apart. Even then one has not done all that is required, for they must be protected from rains during winter by means of a frame placed over them, there to remain until growth starts in spring. At that season air is admitted, gradually at first, and finally the frame is removed. The flowers are in full beauty in early summer; when they are over and the stems begin to wither, one has to see that the "ripening" of the plants is complete, and this can be ensured only by keeping them dry. Thus, if necessary, as it is in a rainy season, the frame must be replaced, although air ought to be admitted freely, and in such a way that the soil remains dry. There are many sorts of Calochortus, but, to begin with, the amateur should obtain a few of the numerous varieties of Calochortus venustus. The Eldorado strain itself contains some gorgeous flowers; citrinus is yellow with reddish markings; roseus is rose coloured; Vesta is white with

various markings, while oculatus is purplish rose marked with black and yellow.

The Blue Camassia.—How rarely outside botanic gardens does one see the beautiful Camassia or Quamash from North America, yet this is among the finest of early summer bulbs. One of the illustrations gives a good idea of Camassia Leichtlini, which grows about 3 feet high and bears numerous starry cream-coloured flowers. Others are esculenta, blue, and Cusickii, lavender blue. One has only to plant the bulbs about 5 inches deep in ordinary well tilled soil in October, either in a sunny or partially shaded spot; they may be left undisturbed for years. It is scarcely advisable to put them in the flower border, because their large leaves are rather untidy, and it is not an easy matter to hide them.

Lily of the Valley is so familiar and so widely planted that one would think there was nothing more to be said about it. But I have an interesting tale to tell. I remember on one occasion advising a reader of some notes of mine to take up and replant some crowded Lilies of the Valley, of which the flower spikes decreased in length and the flower bells in size each year. I was immediately taken to task by another correspondent, who related that her own garden contained a splendid and very old bed of Lily of the Valley. One day a professional gardener who happened to see them said that the roots were much too crowded, and advised their being taken up and replanted. Since then, she averred, scarcely a flower had appeared, and she believed it would be years before the bed regained its former beauty. The moral of this is that if your Lily of the Valley bed is flourishing, leave it alone. One of my happiest recollections is of a Lily of the Valley bed in a western county; it flanked both sides of a walk in the kitchen garden. The plants were as thick as Peas in a pod, yet they flowered profusely. I was assured that they had not been disturbed for twenty years, yet they showed no sign of deterioration. There

is no doubt that, generally speaking, Lily of the Valley prefers to remain undisturbed. But if the plants are obviously unhappy, the only thing to do is to take them up and replant at a greater distance apart. Much may be done to keep them healthy by applying a top dressing of leaf soil and partly decayed manure each autumn. In planting Lily of the Valley, choose a position partly shaded from the sun, for example, a bed or border facing west; have it dug 18 inches deep at least and plenty of manure and leaf soil mixed in. The crowns (each separate root is called a crown, and a certain number of crowns make up a bundle) should be put about 3 inches apart and at such a depth that the tops are only slightly covered. But this is a wayward plant. You may take the greatest pains to establish it and be less successful than those who treat it in haphazard fashion. Must I confess that the only Lilies of the Valley I now possess are those that came underneath my neighbour's fence, and he, I am sure, took no great pains to establish them. So at the end of this long paragraph I am inclined to think that I have made "much ado about nothing."

King's Spear or Eremurus.—How noble a plant is the King's Spear, of which the botanical name is Eremurus! Why amateurs should habitually neglect it I am at a loss to understand. When in bloom in early summer it makes an imposing display. It thrives in deep, well-drained loamy soil. The spikes of some kinds tower to a height of 6 or 8 feet, and the upper part of the stem is covered with small blossoms. The roots are almost as remarkable as the flower stems; they are thick and thong-like, radiating from a central bud like the spokes of a wheel. They are brittle, and should be handled with care. A soil covering of 4 or 5 inches is necessary, and it is advisable to place a mound of ashes on the surface of the soil immediately above them for the sake of protection during winter. Eremurus looks especially well towards the back of the

flower border or in some prominent place in the large rock garden. The best kinds are Bungei, soft yellow, 4 to 5 feet; himalaicus, white, 6 to 8 feet; robustus, pale rose, 8 feet; and Warei, bronze salmon shades, 6 feet high.

Colour Schemes with Hyacinths.—Among popular bulbs for October planting, the Hyacinth takes high place. It is curious that a plant of such pronouncedly stiff growth should invariably be placed in lines or rows; in no other way could its stiffness be emphasised more distinctly. One should exercise some discrimination—plant it in little groups, rounded or irregularly shaped, and endeavour, following Messrs. Sutton's lead, to group the colours to the best advantage. There are some delightful shades among the Hyacinths, and many opportunities for creating charming colour groups are offered. Why not, for example, mingle pale rose and pale blue; cream or pale yellow and blue; dark blue and light blue; cream and crimson; and so on. Colour groups arranged along the front of the flower border are altogether charming. If a bed must be filled with Hyacinths let each group consist of a separate variety, and arrange the colours in harmonious juxtaposition. Hyacinth bulbs ought to be covered with about 2 inches of soil and put from 5 to 6 inches apart. The largest bulbs are not necessarily the best; the surest indications of quality are firmness and weight. The bulbs of some varieties are naturally larger than those of others, but even then weight and firmness are of importance.

A few of the best singles are: Grandeur à Merveille, blush; Grand Maître, light blue; King of the Blues, blue; City of Haarlem, pale yellow; General Pélissier, crimson; Gertrude, rose; and Lord Balfour, purplish shade. Of doubles, one might choose Jaune Suprême, yellow; Blocksberg, light blue; Koh-i-noor, reddish; La Tour d'Auvergne, white; and Noble par Mérite, rose.

While writing of Hyacinths it may be worth while

to draw attention to the charming little Hyacinthus amethystinus, which bears a miniature spike of bluish flowers in early summer. It is delightful for the rockery or for choice spots elsewhere in the garden.

Spanish and English Irises are splendid flowers of early summer, the former opening in early June and the latter a week or two later. The prevailing shades of the Spanish kinds are yellow, blue and white, while the English Irises are of mauve, purple, white, crimson and other colours. One may obtain named varieties, but it is scarcely necessary to do so. The opinion appears to prevail among amateurs that these bulbs ought to be planted in spring and taken up again in autumn. Nothing could be farther from the truth; they are perfectly hardy and thrive best if planted in October. They may be left undisturbed for several years, until, in fact, they become so crowded that it is necessary to replant. The time to do this is as soon as the leaves have died down. Groups of Spanish Iris are particularly welcome in the rock garden, in the flower border, between Border Carnations, and even among the Roses. The bulbs are put about 3 inches deep and 4 inches apart. The English Irises are more vigorous than the Spanish kinds, and should be covered with 3 inches of soil and be placed quite 6 inches apart. They are better suited for the flower border than the rockery. Within recent years a new race of bulbous Irises has been obtained; they are known as Dutch Irises because they were raised in Holland, and bear a close resemblance to the Spanish kinds, though they bloom rather earlier.

The Flag Iris.—October is a suitable month in which to plant the Flag or German Irises, an invaluable race of plants. They will flourish in all sorts of odd places on a shady border, in full sunshine, on a hot bank in poor soil, and I have even seen them on the top of a stone wall with the scantiest of soil covering to the roots. Most people make the mistake of planting them too

deeply. It is necessary merely to cover the rhizome (as the rootstock is called) very slightly, certainly with not more than 1 inch of soil. The Flag Irises greatly dislike being disturbed. Usually they do not blossom the first season after planting, so, in choosing a place for them, one should decide that the plants are to remain there. There are many charming varieties among the Bearded Flag Irises, from which one may choose albo-caerulea, white with blue flush; Darius, yellow and purple; Florentina, creamy white; Germanica, the common purple kind; Gracchus, yellow; Madame Chereau, white and blue; pallida dalmatica, lavender blue; and Victorine, blue and purple. The petals of the Iris are classified as standards and falls; the standards are the upright petals and the falls are the drooping ones. The colour of the standards is frequently distinct from that of the falls.

The dwarf Bearded Flag Irises are not commonly met with in amateurs' gardens, yet their early flowering should commend them for planting in the rock garden or on a sunny border. There they yield welcome bloom in spring and early summer before the ordinary Flag Irises are out.

Among the Beardless Flag Irises (the distinction between these and the Bearded kinds is chiefly that there are hairs on the falls of the latter and not on those of the former) deserving of particular mention are the Siberian Iris (sibirica), a lovely pale blue kind that thrives especially well by the waterside; the vigorous Iris orientalis, yellow and white; Iris Missouriensis, pale blue and yellow; Iris Monnieri, light yellow, a strong growing sort; and Iris graminea, blue and purple. The beautiful winter-flowering Algerian Iris (unguicularis or stylosa) is classed among the Beardless kinds also. Everyone should grow a plant or two of this for the sake of its fragrant, lavender-coloured blossoms in winter. It must be planted on a warm, sunny border, preferably at the foot of a wall, and thrives best in light soil.

In the Garden at Woodside, Chenies

The Japanese Irises are unsurpassed for gorgeous colouring and, if the correct conditions are provided, they offer little difficulty to the gardener. They must have deep, moist soil and a sunny situation, and never look so well as by the waterside. However, it is not everyone who has a pond or stream by which to plant them, yet that is no good reason why they should be neglected. They will thrive in the flower border in deep, loamy soil that is kept thoroughly moist in summer. The individual flowers of some of the new varieties are large and of dazzling colouring; but they are expensive, and a mixed collection of older, mixed sorts is gorgeous enough.

Lilies to Plant in October.—There are so many spurious Lilies among garden flowers that the amateur may be pardoned if sometimes he is unable to distinguish between the true and the false. The only true Lilies are those of which the botanical name is Lilium; a few familiar examples are the Tiger Lily, the Madonna Lily and the white Trumpet Lily. The bulbs of many kinds are obtainable in autumn and ought then to be planted. So many people restrict their choice to the golden-rayed auratum, the rose-coloured speciosum, and the orange, black-spotted tigrinum, all of which they plant in spring. The bulbs of Lilium auratum are not generally obtainable until towards the end of the Old, or early in the New, Year, and in this case planting out of doors may well be deferred until spring, but the bulbs of the Tiger and speciosum Lilies are available in October. It is perfectly true that some Lilies are capricious and need special conditions to ensure success in cultivation, but a far greater number are as easy to grow as ordinary border flowers. Why do not amateurs plant them? They are not expensive, and each year they increase in size and beauty. It is advisable to mix sand freely in the soil immediately round about the bulbs.

Of those suitable for planting in an ordinary, well-tilled border the following are to be recommended:

* Batemanniae, 3 feet, apricot coloured, blooms in August; bulbiferum, 2 to 3 feet, orange, June (this kind produces small bulbs in the axils of the leaves; they offer a ready means of increase, and should be planted in boxes of soil at first); chalcedonicum (Scarlet Turk's Cap), 3 feet, brilliant red, blooms in July; * croceum (the old Orange Lily of cottage gardens), 3 feet, June; Hansoni, 4 feet, yellow, June; Martagon, 3 feet, purple, June (the White Martagon is one of the loveliest of Lilies); pyrenaicum (Yellow Turk's Cap), 18 to 24 inches, yellow with black spots, May and June (the odour of the flowers is rather unpleasant); * speciosum and its varieties album Kraetzeri (white) and Melpomene (crimson), 3 to 4 feet, August and September; * thunbergianum, 18 inches, orange yellow, June (there are many named varieties, of which Orange Queen and Prince of Orange are among the best); * tigrinum and its varieties Fortunei and splendens, 4 to 5 feet, August and September; * umbellatum, 2 feet, orange colour, June. All these should be planted in October, for they are hardy and thrive better than when planting is deferred until spring.

Then there are Lilies which need moist, peaty soil and are grateful for a little shade, but these requirements are not difficult to fulfil. A few kinds suitable for such positions are canadense (Canadian Lily), 3 feet, orange yellow, July; pardalinum (Panther Lily), 5 feet, orange and yellow marked with crimson, July; and superbum, 6 feet, orange red, July.

There are other lovely Lilies for early autumn planting, such for example as testaceum (Nankeen Lily), 4 to 5 feet, soft yellow, June; and *Henryi, 6 feet, orange yellow, August (neither of which is difficult in fair soil among shrubs), but probably sufficient has been said to convince the reader that many lovely and satisfactory flowers are to be found among the easily grown garden Lilies, and to arouse in him some desire to possess them.

The bulbs of some Lilies form roots freely at the base of the stem above the bulb, while others produce roots below the bulb only. It is necessary to plant the former kinds at such a depth that there is about 5 inches of soil above them. The latter sorts, those that root from the bulb only, should be covered with about 3 inches of soil. In these notes stem-rooting Lilies are distinguished by an asterisk. Most Lilies thrive particularly well among shrubs, for the young stems thus receive welcome protection in spring.

All about Daffodils.—The remarkably high prices asked for bulbs of the newer varieties of Narcissus or Daffodil must often cause surprise to the non-professional grower. It is not uncommon to find bulbs of the latest creations listed at several guineas each, and one imagines they can only find a home with those who wish to use them for purposes of cross-fertilisation, in the endeavour to produce finer and still more expensive sorts. It is not conceivable that the average garden lover will pay guineas for certain Daffodils when, for a few shillings a dozen or even a hundred, he can obtain others which, if not equally fine, are at least very beautiful. The modern highly priced Daffodil is a fancier's flower, and in the hands of experts undergoes continual change, which does not necessarily enhance its symmetry of form. Yet the grace of the Narcissus has ever been its greatest charm. One may be pardoned for wondering how much bigger the trumpets must be before they satisfy their creators, and whether the broadening of the petals until they overlap and the metamorphosis of the cup really add to the grace of the flower. Our debt to the hybridists is for their work in extending the range of colour in the Narcissus; remarkable results have been achieved in this direction.

The Lesser Daffodils are among the most fascinating flowers of spring, and all too little grown. What can be more enchanting than the dainty Hoop Petticoat

Daffodil (Narcissus Bulbocodium) and its citron-coloured and white varieties, named, respectively, citrinus and monophyllus; the Cyclamen-flowered Daffodil (Narcissus cyclamineus); the Angel's Tears Daffodil (Narcissus triandrus albus); the small Rush-leaved Daffodil (Narcissus juncifolius); minimus, a tiny yellow flower; the pure white Narcissus moschatus, and Narcissus Johnstoni Queen of Spain, a comparatively small soft yellow trumpet flower? A cool, well-drained spot in the rock garden suits them well, although some of them may be naturalised on the outskirts of trees.

Trumpet Daffodils.—The varieties of Daffodils for planting in beds and borders, and for naturalising in grass, are innumerable. Among the finest yellow Trumpets are Emperor, Glory of Leiden, Golden Spur (especially valuable for growing in pots under glass), King Alfred, obvallaris (the Tenby Daffodil, an early kind, smaller than the others named), P. R. Barr and Van Waveren's Giant. Of bicolor Trumpets (those in which the trumpet is yellow and the perianth white) a few good ones are Apricot, Duke of Bedford, Empress, Horsfieldii, J. B. M. Camm, Mrs. Walter T. Ware, Victoria (excellent for pots in the greenhouse) and Weardale Perfection. The white Trumpets are particularly beautiful, and everyone ought to grow at least a few of them; such for example as albicans, Madame de Graaff, Mrs. Thompson and W. P. Milner.

Chalice-cupped and Star Narcissi.—Next on the list, according to the accepted classification, come the Chalice-cupped Narcissi, of which representative varieties are Autocrat, Beauty, C. J. Backhouse, Frank Miles, Gloria Mundi, Sir Watkin, Stella and Stella superba. The Barri or Star Narcissi have a smaller cup or crown than the Chalice-cupped varieties. Beautiful sorts are Agnes Barr, Albatross, Burbidgei, conspicuus, Firebrand, Flora Wilson, John Bain, Seagull and Vanessa. The Eucharis-flowered Narcissi are only

distinguished from the two former classes by their colouring. The flower is white or pale, while the cups of the Chalice-cupped and Star Narcissi are usually brilliantly coloured, and contrast strongly with the light perianth. The Eucharis-flowered kinds are very charming, and one may with advantage select such as Leedsii, Ariadne, Duchess of Westminster, Katherine Spurrell, Minnie Hume, Mrs. Langtry, Salmonetta, Una, Waterwitch and White Lady. Among the true Poet's Narcissi there are now some lovely flowers, though the best are still expensive. Almira, Cassandra, Herrick, Pheasant's Eye, ornatus, poetarum and White Standard are some of those of reasonable price.

On Growing Daffodils.—The most convenient way of growing Daffodils is in beds by themselves; when the time comes to prepare for summer flowers the bulbs are taken up and planted on a reserve border, there to remain until the leaves have died down. In due course they are lifted and stored, and replanted in October. But this is certainly not the most picturesque way of planting. They look far better in groups in the herbaceous border and shrubbery, and in grassy corners, or if one has sufficient room, naturalised in masses in grass, among thin woodland, and by the waterside. Perhaps in the latter position they are most attractive of all, for their graceful flowers gain an added charm from the reflection on the water surface. So many people complain that Daffodils and other spring-flowering bulbs are a nuisance in the flower border after their beauty has passed, but that I think depends upon how and where they are planted. If one scatters them in twos and threes all over the border, or groups them towards the front, it is true that their fading foliage will prove an eyesore, for it does not disappear until July. If, however, the bulbs are grouped towards the back of the border, among the vigorous perennials, such as Michaelmas Daisy, Helenium, Aconitum, Sunflower,

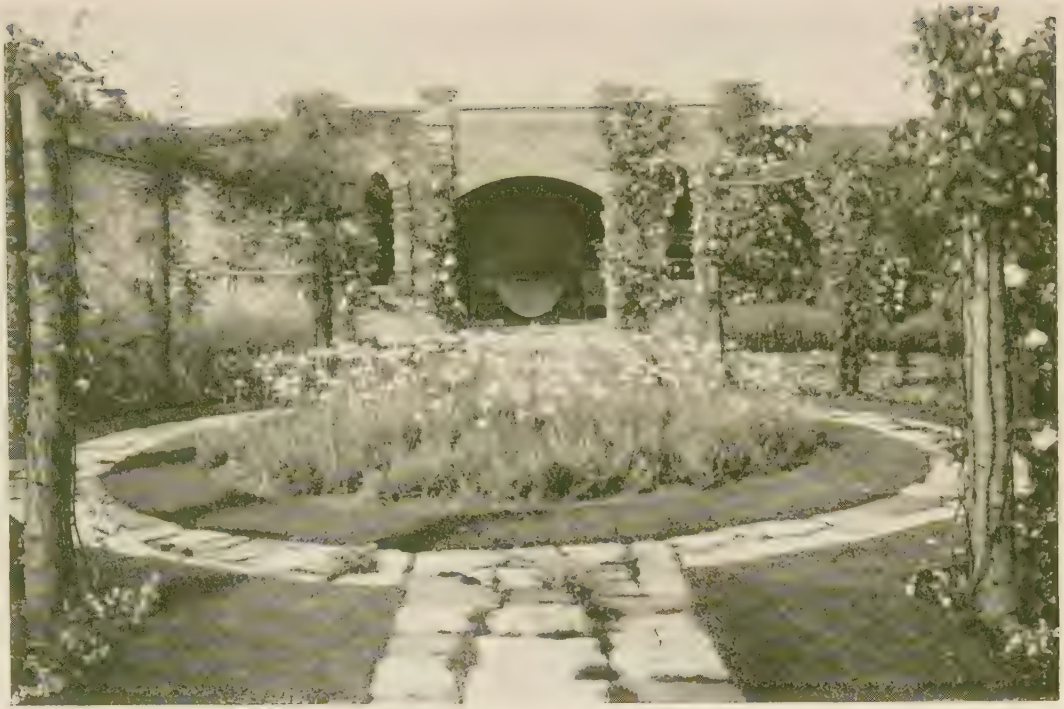
and others, their leaves are gradually hidden as the herbaceous plants progress.

Daffodil bulbs ought to be put at such a depth that they are covered with quite twice their own depth of soil. I am sure that most amateurs plant them much too near the surface. When planting in grass care should be taken to make the holes of such a width that the bulbs will reach the bottom; otherwise they may be suspended an inch or so above the soil, in which case the roots will perish.

A few of the best varieties for naturalising in the garden are Emperor, Empress, Stella, Stella superba, Mrs. Langtry, William Goldring, Waterwitch, Horsfieldii, Barri conspicuus, Minnie Hume, obvallaris and maximus.

In conclusion, it may perhaps be as well to explain the significance of the terms Daffodil and Narcissus; their indiscriminate use is somewhat misleading. The title of Daffodil is usually applied only to those flowers in which the central cup is large and prominent, and as long as, or longer than, the petals or segments of the perianth. They are known as Trumpet Daffodils. The remaining kinds, in which the central cup is not so long as the perianth segments, are termed Narcissi. However, the botanical name of the genus is Narcissus, so that the Trumpet Daffodil is a Narcissus equally with all others.

The Expense of Gardens.—Few amateurs have found gardening to be so cheap as they expected, but that is scarcely matter for wonder, since similar disillusion ensues in almost any recreation that may be taken up. So many additional items that were not thought of, or were ignored originally, seem necessary, on closer consideration, to such an equipment as is likely to ensure success. On reflection, one must allow that garden of fair size cannot be furnished without moderate outlay, but subsequently gardening is, I think, expensive or not as one chooses to make it. It is possible to have a



SPANISH IRISES IN A PAVED GARDEN

CHARMING LATE SUMMER FLOWERS—OUT-OF-DOOR CHRYSANTHEMUMS

border full of delightful flowers that cost little, or a border of no greater charm filled with flowers that cost very much more. One of the chief delights of gardening is that the limited expenditure of one may produce just as charming a garden as the lavish outlay of another, providing it is dispensed discriminatingly. Often enough, the only difference is that the latter buys new plants, while the former is content with those that are common. They are not less attractive on that account, and, in fact, are often to be preferred; their worth has been proved by long cultivation, while novelties are often lauded to an extent that is not justified by their subsequent behaviour in the garden.

If it is somewhat expensive to start gardening, how cheap to continue, if only one takes advantage of opportunities, as they occur, of augmenting the stock of flowers that are cherished. Those hardy plants of greatest value for display usually grow vigorously, and in the course of a season or two may be increased to any extent. The secret of successful plant growing, upon which gardening is chiefly dependent, lies in thorough initial soil preparation and in timely attention. Haphazard spade work, and doing things at the wrong time, are the chief reasons why so many complain that their gardening is expensive. To pursue gardening with pleasure one needs also, perhaps to an unusual degree, to possess the virtue of patience. It is a common and, I think, a natural failing with those who take possession of a new garden to strive for immediate effects, though the results are invariably disappointing and the methods inevitably expensive. A garden that is planned and planted to a design hastily conceived rarely pleases; until one has come to know the garden, one is not in a position to decide how it may be filled to the best advantage. It has been said that one should see the year round before planting anything at

all, and if the statement is rather exaggerated, at least the moral is plain to see. It is only by watching a garden approach gradually to the ideal one set out to achieve that full pleasure is gained; the progress of the trees and plants may give even greater delight than the consummation of their beauty.

The most interesting and easily the cheapest way of adding to the treasures of a garden is to raise plants from seed. Most herbaceous perennials bloom in the year following that in which seed is sown, and they grow with remarkable vigour once the seedling stage is passed. It is a mistake to purchase big plants, especially of shrubs. Choice shrubs are expensive, and their loss is bound to lead to disappointment. The risk of failure is minimised if small specimens are planted in early autumn.

Alterations in the Garden.—The season of waning flowers has its own peculiar compensations in the opportunities afforded of preparing for another year, and of carrying out such alterations as may have been decided upon. While it is true generally that the garden which was well planned in the first place and has grown old with the passing years charms us most, there is always scope for alterations of some extent. To the gardener, happily disdainful of the intervening months, and visualising next summer's display, come inspirations for improvements in the arrangement of beds and borders and walks, and for fresh planting. No phase of gardening is more exhilarating than that of working to a fresh design, whether it be merely perfecting an awkward curve, forming a new rose bed, or the more ambitious task of making a rockery or planting a new flower border. It were perhaps idle to attempt to suggest improvements likely to be useful generally, yet so many gardens exemplify similar errors that even a wide statement may possibly contain details that are of value in individual cases.

In planting the garden some people consider it only as

a place in which to grow flowers, and it deteriorates into a series of beds and borders, lacking charm and void of inspiration; it is, in fact, a flower show. A garden should be a place of alternating light and shadow; of cool arbours and shady seats looking out upon groups of brilliant flowers; of winding walks that lead to unsuspected beauties; of tree and shrub groups, of neutral greys and soft greens, that enhance the effect of the gardener's galaxy of colour; in short, a happy blending of natural planting and artificial cultivation. Some features, as for example a straight walk or a lawn, are attractive only when possessing the dignity of length or spaciousness. In a small garden it is better to have a grass walk, as wide and long as circumstances allow, than a small square grass plot; a short winding walk is better than a short straight one. Much can be done to add variety and fresh interest to a garden by planting a screen of shrubs here, curving a walk there, raising a mound somewhere else, and the present is the time to put this work in hand.

Veiling the Outlook.—The small garden is generally less attractive than the large one because its incongruity is apparent; it is out of harmony with its surroundings and obviously an artificial creation. No garden can charm fully unless it is, either apparently or really, in an agreeable setting. As the environment of the small garden is usually such as to detract from, rather than add to, its beauty, there remains only for the designer to deceive. Since one is powerless to alter the surroundings, the deception must be directed towards modifying the outlook. This needs to be done with care, or the plot may be exposed by its own artificiality. It is a simple matter to hide an ugly object with a belt of trees or a bank of shrubs (why one should be a "belt" and the other a "bank" it is not easy to say), but there is little gained by doing so; either is obviously planted for the purpose of a screen, and one does not shut out beauty from a garden. It is better to veil the offending spot with

tracery of fragile leaf, lissom stem, and welcome blossom; while themselves attractive, they modify the outlook with subtle influence, softening the lines of neighbouring buildings, weaving fairy frames round staring windows, toning crude bricks with mellowing touch. Even prosaic roofs and chimneys may add agreeable variety to the view if seen only through a curtain of leafy branches, all blossom-spangled in due season. Thus veiled, the unlovely corner of the world that matters, as seen from the garden, is shorn of its vulgarity, and revealed only in glimpses that stir the imagination.

The four walls or fences of a garden of restricted size are predominant; they exert a depressing influence and seem to insist upon the futility of attempting anything beyond commonplace arrangement. But there are ways of transforming the aspect even of a garden in the suburbs. The creation of an indefinite boundary should be the chief aim of the designer. If the corners are rounded off with groups of shrubs and flowers, the garden at once makes some appeal, and acquires an air of mystery because its full extent and the exact position of its boundaries, previously exposed, are now hidden.

The monotony of the fence-line should be broken by trails of clustering Rose and Clematis. Of Roses one may choose those that scarcely lose the old leaves before the new ones appear, such for instance as Aimée Vibert, Tea Rambler, Alberic Barbier, Hiawatha and Shower of Gold. Of Clematis there are many equally prodigal of leaf and profuse of blossom; they commingle good-naturedly to form a fairy fence of garden beauty. If some of the climbers take liberties in the matter of space, gentle admonition with the pruning knife has the necessary effect. The Traveller's Joy (Clematis Vitalba), the Mountain Clematis (montana), the Virgin's Bower (Clematis flammula), together with Polygonum baldschuanicum (which certainly does not deserve its horrible

name, for it becomes a mass of graceful creamy blossom twice a year)—all are rampant climbers and each is delightful in its own way. Perhaps the most exquisite flower picture of all results from planting Laburnum, the tree of golden tresses, and coaxing mauve Wistaria round its stem and through the branches.

For forming groups where sharp corners are conspicuous, flowering shrubs ought to be used chiefly. There are many from which to choose. One might, for the sake of their glow in the winter's gloom, have a few Witch Hazels (Hamamelis) and the yellow Jessamine (nudiflorum), for fragrance the Winter Sweet (Chimonanthus fragrans), and for flower company when the earth wakes slowly, the Forsythia or Golden Bell, the fragrant Mezereon (Daphne Mezereum), the sweet-scented Honeysuckle (Lonicera fragrantissima), and Almond. They herald the coming of spring, when buds burst to blossom in riotous profusion with the opening of the ornamental Peaches, Plums, Cherries, Pears and Crabs, followed by the Thorns, Laburnums, Barberries and Spiraeas.

Lifting and Storing Flower Roots.—Though the Michaelmas Daisies, Sunflowers, Sea Hollies, Dahlias, Redhot Pokers, and a few others may remain gay for some weeks, the flowers of summer are things of the past, and attention must soon be directed towards lifting and storing the roots or bulbs of such as need this care. The roots of Gladiolus should be taken up as soon as the leaves have turned yellow (the leaf stems being cut off to within a few inches of the base) and laid out to dry on a shelf in the greenhouse, or some other dry, sunny place. In the course of ten days or so the soil may be rubbed off easily, and the roots stored in paper bags for the winter. The small offsets found at the base of the Gladiolus roots should be taken off; if kept during winter in a box of sand and planted in spring they will make such progress as to reach flowering size in a year or two. Some gardeners lift the roots of Montbretia

each autumn, store them during winter, and replant in spring. Although this plan, no doubt, ensures the finest display of bloom, it is not necessary, so far as the protection of the roots is concerned, for they pass the winter safely in the ground. They ought, however, to be taken up, separated and replanted every three or four years; otherwise they become crowded and deteriorate. The Cape Hyacinth (Hyacinthus candicans) is best taken up and stored like Gladiolus. It is not generally safe to leave the perennial Lobelia out of doors; the roots should be placed in boxes of light leafy soil, and stored in the greenhouse safe from frost. The soil needs to be kept slightly moist, or the roots may collapse from "dry rot." The Canna or Indian Shot is a showy summer flower, the roots of which need to be stored during winter; they are not fastidious and may be placed beneath the stage in the greenhouse. Readers having a warm garden and light soil may leave their Dahlia roots in the ground throughout the winter, merely protecting them with a heap of ashes before cold, wet weather sets in; but generally it is best to lift and store them in boxes of sand or light soil. So, too, with Tuberous Begonias; if some of the best roots of these are taken up and potted they yield a welcome display of bloom in the greenhouse during autumn.

Border Carnations that were layered in July and August have become well rooted by now, and are ready to be lifted. The question as to whether they ought to be planted directly to form a new bed, or whether they should be placed in 3-inch pots and kept in a cold frame, annually provokes discussion. There is little doubt that in gardens ordinarily circumstanced—in which the soil is not unusually clayey or where climatic conditions are not particularly severe—it is better to plant the rooted layers now. When conditions are unfavourable, probably the plants are better in pots until March, but the finest show is invariably given by those put out in autumn. In

preparing the bed a little decayed manure may be dug in about 12 inches deep, while soot and wood ashes are suitable for mixing with the upper soil. The Carnations must be planted firmly, otherwise their chances of becoming well rooted are jeopardised. They ought to be placed about 18 inches apart; if arranged more closely than this the work of layering will be inconvenient.

Wood Ashes.—A work of some importance at the present time is that of cutting down the faded stems of herbaceous plants, collecting diseased leaves and fruits that have fallen, and removing dead and unhealthy branches and shoots from trees, shrubs and roses. All ought to be burnt. Have the garden fire blazing merrily; some of the essential plant foods may disappear in the smoke wraiths, but the wood ashes are still an invaluable fertiliser, and should be zealously kept. By digging a pit and burying all the rubbish one may, in the course of months, have manure of even greater value, for none of its constituents will have been lost. Nevertheless I should choose the garden fire. As at the touch of a magic wand they fade away—first the old Pea sticks, then the dried stems of last year's flowers, finally the weeds and green rubbish, and a heap of wood ashes remains—a cheap fertiliser ready to hand. Apply it and dig it in and next year's plants will rise from the ashes of their dead friends and flourish and "blossom like the rose." It is necessary to keep the ashes dry, otherwise much of their value is lost. They may be applied to the lawn, used in potting compost, or on the borders in the flower, fruit and kitchen garden. Wood ashes are valuable chiefly for the potash they contain, and may well be used instead of kainit, which is far more expensive.

Digging is usually considered a soulless task, and commonly falls to the lot of the working gardener. I have found it exhilarating—but only in October, when the earth is dry and easily "worked." It is not even

laborious then if one has learnt how to do it correctly. Those who do their own digging might find it worth while—absurd as it seems—to take a lesson in this, the most ancient of crafts. There is a right and a wrong way of digging, and the right way is by far the easier. People who do not know how to dig find that the unwonted exertion leaves them with a most uncomfortable aching in the back; those who do, experience only an aching in the wrists. Gardening and golf are my recreations—I am more successful in one than another—and in their pursuit I am often reminded of similarities. Digging and "driving" have much in common. He who exerts his whole strength in either case will find the result disappointing. With a flick of the wrists at the proper moment the little white ball is dispatched farthest, and the soil most easily. And the precise moment for its execution is, in the case of digging, when the spadeful of soil is about to be put in its place. Don't *throw* it there, but use your wrists; it will go quite far enough, and very little exertion is needed. Don't "rush" at it if you have a big plot to dig. Take a lesson from the British workman. Those who have clayey soil to deal with should endeavour to get the planting done as the digging proceeds. This obviates the necessity of treading on the ground again, and, as all know who have heavy land to cultivate, that is above all things to be avoided.

Rose and Shrub Cuttings.—Those who wish to raise an increased stock of certain kinds of Roses should insert cuttings early in October. The cuttings are formed from firm shoots of the current season's growth, preferably those that have flowered. The most suitable length for a cutting is 9 inches, though it is not possible always to ensure this; the base is prepared by cutting through the stem immediately beneath a joint; all leaves except the two uppermost ones are removed. Two-thirds of the cutting should be inserted

Rock and Herbaceous Border at The Glebe, Sevenoaks

beneath the soil, one-third only being above the ground. A border in the open garden or behind a wall facing north or east forms a suitable position. When the ground has been dug, a trench 6 inches deep, and having a firm straight back, is prepared, and a layer of sand scattered in the bottom. The cuttings are placed against the back of the trench, their bases resting on sand; they should be about 8 inches apart. A little soil is placed against them and trodden firmly, and the trench is filled. Rambler Roses, Chinas, vigorous Hybrid Perpetuals and Hybrid Teas usually prove most satisfactory from cuttings, though it is worth while experimenting with any favourite variety. It is not usual to disturb the cuttings until the following autumn. Of shrubs that may be increased in a similar way at this season are the following: Privet, Mock Orange (Philadelphus), Flowering Currant (Ribes), Bush Honeysuckle (Diervilla), Forsythia or Golden Bell, Kerria (Jew's Mallow), Spiraea, Deutzia, and Viburnum or Guelder Rose.

Laying Turf is rather a troublesome task, and most failures are probably due to lack of patience. If turves are laid immediately the ground is dug, inequalities of surface are certain to result; it is far better to wait a week or two, until the soil has settled to its normal level, and meantime to make it firm by rolling. Turves ought not to be laid in such a way that the edges of those in one row come in line with the edges of those in the next row; the ends of the turves in the second row should be at the middle of those in the first row, and thus in a line with those of the fourth row. It is a good plan to cover newly-laid turf with a sprinkling of sifted soil; it will be washed into the crevices during winter, and helps to consolidate the lawn. Newly-laid turf must be well beaten down, preferably by means of a proper turf beater made of wood. A simple way to renovate a worn grass edge is to cut off a strip of the turf some 10 inches wide and turn it round so that the

new straight edge is at the margin of the walk; the small space between the broken edge and the lawn is easily filled with soil, in which grass seeds may be sown.

Renovating Arches and Pergolas.—Much disappointment may be prevented if, at this season, the pillars and arches of wood are examined and defective ones made good. It is necessary to detach all growths from their supports to carry out the work efficiently, but this affords an opportunity (which ought really to have been taken earlier) of cutting out old and worthless stems and of tying in the remaining ones correctly. An excellent way of adding to the years of a rustic arch or pillar is to fix the base of each pole in an earthenware pipe, such as is used for draining, or in iron piping, and to fill the space with cement. One may creosote the bottom of the poles, or use iron supports, and cover them or not with strips of bark. It is often stated that climbing plants will not thrive on iron, but this is disproved by experience. However, they do not, I think, look so well as on wood.

There are dead leaves and faded stems on the rockery and, if not removed, they are liable to cause some of the plants to perish. A few rock plants are fastidious in so far as they dislike our wet, mild winter. Such as Asperula suberosa, most Androsaces, Gentiana verna and acaulis, Acantholimon venustum, Antirrhinum asarinum, Arnebia echioides, Silene acaulis, Lewisia, Omphalodes Luciliae, Onosma and Soldanella are among those that need covering with a piece of glass raised a few inches above the ground. One may still plant the vigorous kinds of rockery flowers, but it is as well to defer putting in choice kinds until spring.

Planting Spring Beds.—Those who follow the practice of summer bedding must also plant spring flowering plants, if they wish to keep the garden gay throughout as long a season as possible. Some of the most delightful displays are created with such familiar spring flowers as

Daffodil, Tulip, Hyacinth, Polyanthus, Primrose, Arabis, Wallflower, Forget-me-not, Aubrietia, Yellow Alyssum, Dwarf Phlox, and a few others. All these are obtained by various methods of propagation carried out in early summer when the plants have finished blossoming—by dividing the old roots and replanting the portions on a reserve border, by taking cuttings, or by sowing seeds. If these tasks are performed in May and the plants are attended to during summer, they will have developed splendidly by October—the time to arrange them in the beds in which they will bloom. Innumerable colour schemes and attractive methods of grouping will suggest themselves to thoughtful gardeners, and the choice of colours is so wide that there is plenty of scope for the exercise of individual preferences. It may be worth while to mention a few examples of showy spring beds. The double white Arabis makes an admirable ground covering for many taller flowers, though the effect is never more striking than when crimson, scarlet, or pink Tulips are used. Mauve Aubrietia and white evergreen Candytuft form a dainty colour scheme. Yellow Wallflowers and Forget-me-nots provide a brilliant display. The dwarf Phlox subulata or Moss Pink may be used as a ground covering for white Tulips; these, too, look well above a groundwork of mauve Aubrietia. A striking, if rather garish, association is that of red Tulips and yellow Alyssum. Pink Tulips among Forget-me-nots, and pink or blue Hyacinths with white Arabis, are very showy.

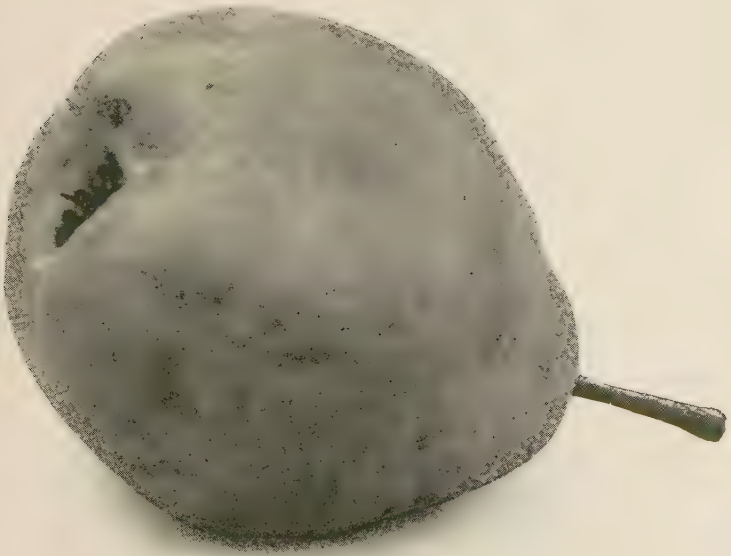
In the Greenhouse

A Charming Autumn Flower.—In the greenhouse there has been nothing more charming lately than the Nerine, which bears bunches of narrow, tube-shaped flowers in late summer and autumn, and is an ideal plant for an amateur's greenhouse. Although Nerines are probably all the better for a little warmth in cold

weather, they will thrive without it. At a meeting of the Royal Horticultural Society some excellent plants were shown which were said to have passed the previous winter in a cold frame. Nerines grow during winter, and thus need especial care at that season. They should be placed in the sunniest part of the greenhouse, and watered sufficiently often to keep the soil moist. In spring, as the leaves fade, less water is given, and when they are at rest, the soil is allowed to become dry. During summer it is necessary to place the pots of bulbs in a dry, sunny place, to ensure their being "ripened," for upon this consummation their successful flowering depends. Late in summer the flower spikes appear, and watering is resumed, though comparatively little moisture is needed until leaf growth begins. Few plants are more easily grown than Nerines; they seldom need repotting, and will thrive in the same flower-pot for several years. They are admirable for the cool or cold greenhouse.

Sowing Persian Cyclamen.—There are few more valuable flowers for the greenhouse in early spring than the Persian Cyclamen; the plants need little artificial heat, they bloom freely when well grown, and the flowers last in beauty a long time. Perhaps their chief recommendation to the amateur gardener lies in the fact that they are such true and long-lived perennials. One has only to glance through a list of greenhouse flowers to ascertain that many of them need to be renewed every year, either by sowing seed or by taking cuttings; this is a disadvantage, especially to those whose time and opportunity for gardening are limited. The Cyclamen rises superior to these failings. The curious rounded root which is technically termed "corm" may be grown on from year to year, and needs only to be repotted each summer, when signs of fresh growth are apparent. I do not know the greatest recorded age of a greenhouse Cyclamen (I have grown the same root for six years), but I have heard

PEAR LOUISE BONNE OF JERSEY



PEAR BEURRÉ DIEL

AUTUMN FRUITING RASPBERRIES

of a hardy Cyclamen that has continued to flourish and to flower for forty years; there seems no reason why the Persian variety should not prove equally long lived. Most professional gardeners raise Cyclamen from seed each season, probably because the plants so obtained are most suitable for decorative purposes and yield the finest flowers. Though the blooms from old roots may be smaller, they are far more numerous. The reader who sows Cyclamen seed now to produce flowers in fifteen to sixteen months' time has the satisfaction of knowing that he is raising a stock of plants that will increase in size and beauty as the years pass. Equable and cool conditions are the chief aids to success; if the plants are subjected to widely fluctuating temperatures and the soil to extremes of drought and moisture, then failure is inevitable.

The seeds are sown thinly in pans of light soil, and the seedlings are transferred singly to small flower-pots. In repotting it is important so to place the little corm that it rests on the surface; if covered with soil it is liable to decay. A temperature of 50° is suitable during winter, and the soil needs only to be kept moderately moist. During summer a cool frame is the best place for them. When, after the flowers have faded, the leaves begin to turn yellow, gradually decreasing supplies of water are given, and when the foliage has fallen the soil is allowed to get quite dry. The pots containing the roots are placed on a sunny shelf in the greenhouse, there to remain, without water, until late in July. At that season the corms are shaken out of the old soil and repotted in fresh flower-pots $3\frac{1}{2}$ inches wide; a suitable compost consists of turf loam with a little leaf soil, old dry manure and sand intermixed. The roots are placed in a cool frame, the compost being kept slightly moist, and fresh growth soon appears. They will make quick progress, and in autumn must be repotted in 6-inch pots and returned to the greenhouse. This is the orthodox

routine. Many amateurs plant their Cyclamen in the open garden in late spring, leave them there throughout the summer, and in September lift and repot them.

The Unheated Greenhouse.—The cold, or unheated, greenhouse is less comprehensive in its scope than the heated greenhouse, so far as the number of kinds it can accommodate is concerned, yet it has greater possibilities at the hands of the unskilled in gardening. There is little likelihood of extremes of temperature and atmospheric conditions, that account for so many failures with tender plants. Its possessor cannot, it is true, hope to compete against the owner of an artificially heated house in midwinter, but with the passing of the early days of the New Year, he may, at little expense, have an exquisite garden of blossom. Best of all, he may enjoy the flowers in their full fresh beauty, untarnished by rain and wind. All that he needs for the bulbs are well-drained flower-pots, or pans, some loamy soil and a little leaf soil, and sand with which to lighten it. Then the whole treasury of spring bulb loveliness is open to him—Hyacinths, Tulips, Narcissi, Squills, Fritillaries, Crocuses, Anemones, Hepaticas, and others too numerous to mention, will provide a feast of colour and a succession of attractive blossom until the outdoor beds and borders take up the running.

There is no need to enlarge upon the details of cultivation. It suffices to pot up the bulbs (flower pans are preferable to pots for the small ones), and to keep them cool and dark until roots have formed freely. Then they are brought into the greenhouse and given water when it is needed. The unfolding of flower on flower, each gaining in strength as the sun rises in the heavens, will provide hours and days of gardening joy. All the smaller alpines may be laid under tribute, and especially those raised from seed sown in early spring, and there are sure to be others here and there in the rock garden itself that, with care, may be lifted and repotted. Absolutely cool

treatment is necessary, and, whenever the weather allows of it, air should be freely admitted to counteract the dampness of the atmosphere.

Various plants are much hardier than they are generally thought to be. In a cold greenhouse I have grown the dainty lilac-coloured Primula malacoides, the golden yellow Primula Kewensis, Calceolaria, Cineraria, Persian Cyclamen, Chinese Primula, and even a Lady's Slipper Orchid, Cypripedium insigne. Geranium and Calceolaria cuttings take no harm there, and roots of Tuberous Begonias may be stored in pots of sand or soil. I have kept all these flowers throughout the winter despite the fact that as much as 5° of frost has been registered in the greenhouse. The item of chief importance is to keep the atmosphere as dry as possible, and to give no more water than is absolutely necessary. Although it is interesting to experiment with such flowers as are named above, the hardy kinds are really most suitable for the unheated greenhouse. Roses are especially valuable, whether in pots or planted out, while such hardy annuals as Snapdragon (this is really a perennial, though best grown as an annual), Clarkia, Godetia, Stocks, etc., are showy in spring and quite easy to grow.

Roses in Pots.—It is very delightful to be able to gather Roses from a greenhouse in April and May, and it is not a difficult matter to do so. No artificial warmth is necessary; an unheated greenhouse is suitable. With the longer days and increased sunshine of late March and April the temperature of the greenhouse rises rapidly, and if the ventilators are closed early in the afternoon the atmosphere remains warm throughout the night. Many amateurs fail with Roses because they attempt to grow them in a high temperature before they are well established in pots, with the object of obtaining bloom in early spring. Roses potted up now should not be forced next spring; if this is attempted not only will the plants be weakened but the blooms produced will be of

poor quality. They should remain out of doors, the pots plunged to the rims in ashes or leaves, or in a cold frame, until February; they are then pruned and placed in the greenhouse. The following winter they can be pruned in December and put under glass early in the New Year. Strong plants obtained from a nurseryman or dug up from the open ground should be potted in pots 6 or 7 inches wide, all thick, long roots being cut back and the growths shortened by about half. Firm potting is necessary; an ideal compost consists of rough turfy soil with which one-third rotted manure and some ½ inch bones are mixed. Then the Roses may be grown for several years without being repotted, provided they are given a top-dressing of similar soil each autumn. A few good varieties suitable for cultivation in pots are Madame Abel Chatenay, Lady Hillingdon, Richmond, Joseph Lowe, Prince de Bulgarie, Mrs. John Laing, Pharisaer, G. C. Waud, Ulrich Brunner, Mrs. Herbert Stevens and W. R. Smith.

Potting Bulbs.—The simplest and cheapest way of obtaining a display of spring flowers in the greenhouse is by growing bulbs in pots. It is difficult to fail if one begins early, in October, but quite easy to do so if one defers the work until late November or December. Even then success may be achieved, but it is not so certain, and, in gardening, one ought not to impose too great a strain upon the flowers one grows. If the bulbs are potted during the first two weeks of October and placed out of doors beneath ashes for two months, then being brought into a frame or greenhouse, it is difficult to see how failure is possible, providing the bulbs are sound and one has mastered the practice of watering. Amateurs frequently ask how often plants should be watered, and no one can tell them definitely. The simplest and the best way is not to give water until the soil begins to get dry; then to fill the pot to the rim and to give no more until the soil again shows signs of

becoming dry. This interjection, though seemingly malapropos, is not really so, for bulbs are very liable to fail if watering is performed injudiciously. Let the soil be moistened through as soon as potting is completed; the bulbs will then need no more until they are taken out of the ashes.

Gardening books always take too much for granted, I am told, and that is probably true. For instance, I am taking for granted that the reader has a supply of sifted ashes avilable. If however he has them not, he should not, on that account, relinquish the idea of growing bulbs in pots. They will form roots quite satisfactorily in a frame which is covered with a mat, or at the foot of a wall facing west or north, especially if a little soil is placed over them. Finally, in the absence of wall or frame, one may dig a small trench in the garden, place the pots of bulbs therein, and cover them with the soil that was taken out. If this method is adopted, a few worms will probably find their way into the pots, but they can easily be induced to depart by watering the bulbs with a little lime water. The two chief details to observe in potting bulbs are, not to make the soil very firm beneath them (otherwise, as they form roots, they will be forced out of the soil), and to mix sand freely with the compost; this ought to consist of turf loam with which a little leaf soil is mixed. As to the number of bulbs to be accommodated in pots of varying sizes, this is easily determined. Small kinds such as Crocus, Squill, Grape Hyacinth and Snowdrop may be put about an inch or rather more apart. One Hyacinth bulb can be grown in a 5-inch pot or three in a 6-inch pot, and the same rule applies to the larger Daffodils. In a 6-inch pot one may often plant five, and in a 5-inch pot three Tulip bulbs. Bulbs of different varieties of Daffodils, Tulips and Hyacinths vary considerably, and one must be guided by their size. It is not necessary that bulbs grown in flower-pots should be wholly

covered with soil; in fact, in dealing with the large Daffodils, and Hyacinths, this is not possible; they can usually be covered to the extent of one half, which answers quite well. The smaller kinds of bulbs may be covered wholly. After all it is chiefly beneath the bulbs that one needs to have the bulk of the soil.

Amateurs often complain that the leaf tips of the bulbs turn yellow as they progress, and that the general appearance of the plants is thereby disfigured. Incorrect watering may account for this, though it is due chiefly, I think, to the fact that immediately upon being taken out of the ashes or other covering, beneath which they were placed to form roots, the bulbs are exposed to full light. At that stage the leaf tips are tender and easily injured, and therefore for a few days the plants ought to be shaded so that the exposure to full light may be gradual. A bulb that some may care to grow for the sake of curiosity is called Monarch of the East, and its botanical name is Amorphophallus Rivieri. It will come into bloom in an ordinary living room if placed in a comparatively warm place, such, for example, as on the mantelshelf. It cannot be described as handsome, for it is something like a greenish-brown Arum Lily. When growth begins in spring it is necessary to pot the bulb in ordinary potting compost and keep it in the greenhouse.

There is no need to restrict one's selection of bulbs for pots to Daffodils, Tulips, Hyacinths and a few others equally common, for are there not Spanish Iris, Ixia, Sparaxis, Lilium, Anemone, Snowflake, Star of Bethlehem and others that have already been referred to in this chapter? Every year one ought to grow a few fresh flowers; this is the way to sustain perennial interest in gardening.

Lilies in Pots.—The favourite Lily for growing in flower-pots is the White Trumpet Lily (Lilium longiflorum), of which the variety giganteum is finer than

In the Flower Garden at Chevening Park—Annual Phlox in the foreground

the typical kind. The favourite Liliums auratum and speciosum are not generally obtainable in October, but others available are Henryi, Brownii, testaceum, Krameri and tigrinum. There is really no good reason why one should continue to grow only the White Trumpet Lily because other people grow nothing else. The treatment of Lily bulbs is simple, though one should remember that some are stem-rooting and others are not. Of those mentioned all are stem-rooting except testaceum.

Provision must be made, therefore, for future top-dressing, i.e. an addition of soil, so that the stem roots shall be properly nourished. Six-inch pots are filled about half full with sandy loam and leaf soil, on which the bulbs are placed, one only in each flower-pot. A little more soil is added, sufficient to cover about half the bulb. It is a good plan to scatter a little silver sand on the soil before placing in the bulbs, so that the latter may rest directly on the sand. The pots of bulbs are then placed in a frame or greenhouse from which frost is excluded, very little water being given, enough only to keep the soil slightly moist; there they remain until spring. When nicely rooted, they are repotted into 7- or 8-inch pots. The stem-rooting sorts must be placed low down in the large pots, the space above the bulb will be filled in as the roots appear on the stems. In repotting those that form roots from the base of the bulb only, the pot may be filled at once in the ordinary way,

Growing Bulbs in Fibre.—The moss fibre obtainable from nurserymen and others provides an excellent medium in which to grow bulbs in bowls and vases in the home. Ordinary coco-nut fibre may be used instead, if charcoal and crushed oyster shell are mixed with it. This method of flower cultivation is one that appeals to the fastidious gardener; the fibre is clean and pleasant to handle, and the vessels used are far more attractive than ordinary flower pots. One may grow all sorts of

bulbs in fibre, though Daffodils are generally most satisfactory. Tulips especially are liable to prove disappointing, because they make so much leaf growth. The fibre is moistened before use and the bowls are filled to within about an inch of the top; the bulbs are then pressed slightly in the fibre and covered as far as possible. Many failures occur owing to the bulbs being placed in a dark, stuffy cupboard, and to overwatering. The best position is a cool airy, semi-dark room; there the bulbs form roots quickly, and in two months or so will be ready for removal to a light window or greenhouse. If the fibre is thoroughly moistened before use, little water will be needed until the bulbs are well rooted; it should, however, be examined weekly, for to allow it to become dry is to court failure. Perhaps the greatest charm attaching to bulb growing in fibre is that it may be practised by those possessing little or no garden space. The shallow bowls that are sold by bulb dealers are admirably adapted to the purpose, though one may use any vase or bowl that is of a size suited to the bulbs.

The simplest of all methods of flower growing in the home is that by which both soil and fibre are dispensed with, water alone being used. Hyacinths thrive admirably under this treatment and give little trouble. The water should be changed occasionally, or a lump of charcoal may be put in to keep it "sweet." The bunch-flowered or Polyanthus Narcissi are also well suited to this treatment, or they may be grown in bowls filled with pebbles and water. Small pebbles must be used, otherwise it is difficult to fix them firmly. Even Daffodils may be grown in vases filled with water, though they are less reliable than Hyacinths. It is necessary to use vases having a wide mouth and a narrow neck, so that the base of the bulb is kept just above water. Instead of filling the vases with water one may use fibre. The possibilities of flower growing in fibre

seem unlimited; in addition to Daffodils, Hyacinths, Squills, Crocuses, Grape Hyacinths (Muscari), Snowdrops, one may grow even Lily of the Valley and Liliums, while Alpine plants have been tried with some success.

All greenhouse plants that have been out of doors or in a frame for the summer, such as Zonal Geranium, Cineraria, Cyclamen, Salvia, Primula, Chrysanthemum, Indian Azalea, Hydrangea, Perpetual Carnation, etc., ought now to be brought under glass. The latter should be thoroughly cleansed for their reception, and I have found nothing better for the purpose than a preparation called Clubicide, which is to be had from seedsmen. If the walls, floor and staging are first thoroughly hosed and then syringed with Clubicide, there will be at least a clean greenhouse to start with. Greenfly will probably soon make its appearance and the simplest way to get rid of it is by fumigating with one of the many compounds sold for the purpose. It is much easier to prevent the spread of greenfly than to destroy it when leaves and shoots are badly attacked.

Heating a Small Greenhouse.—An unheated greenhouse is apt to become rather depressing at this time of year, chiefly owing to its chill and damp air and the decaying leaves which this occasions. In spring it can be made quite gay with spring bulbs in pots and several early flowering plants and shrubs; meanwhile these are dormant, and the greenhouse is dull. The installation of a simple heating apparatus enables one to grow a greater variety of flowers and to keep the greenhouse bright until the sunshine awakens spring blossom to life. In the case of a large glasshouse, say 20 to 30 feet or more long, the only really satisfactory plan is to install a boiler outside the house and have it connected with a set of hot-water pipes, work that is best left to a horticultural builder. But for a smaller greenhouse, say from 9 to 15 feet long, a simpler method suffices. The most primitive heating apparatus consists of a paraffin lamp and a series

of flower pots of varying sizes. These are placed one on top of the other until a cone of inverted pots is formed. The largest one, which is of course at the bottom, is raised upon bricks to enable the lamp to be placed underneath; it is necessary to enlarge the hole in its base (now the top) to admit the chimney of the lamp. The flower pots soon become warm when the lamp is lit and if several pots are used to form the cone, quite a fair warmth is obtained. The drawback of this plan is that the fumes from the lamp remain in the greenhouse; they are inimical to plant growth, although they do not necessarily do much harm. Great care is needed in attending to the lamp. If it is allowed to smoke the plants may be seriously damaged. When the lamp is lit the wicks ought to be kept low for a few minutes; afterwards they may be turned up without danger of the lamp smoking.

There are other similar methods of increasing the temperature by means of warm air; for instance, one may use a duplex blue-flame lamp alone or place flower pots on the top, or a simple apparatus in the shape of a hollow zinc frame can be obtained; the principle is the same. The disadvantage of all these methods is the possibility of harmful fumes reaching the plants and damaging them. If, however, the lamp is carefully tended as already explained and the ventilator is kept slightly open at night by means of a label, thus allowing of the escape of the fumes, very fair results may be expected. One has to remember that the plants may be ruined if the lamp should smoke badly during the night; it is necessary to see that it is not left too high, for the tendency of the flame is to increase.

It is such a short step from this kind of heating apparatus to one that is really satisfactory, that it is well worth while to incur some slight extra expenditure in the first place. The kind of apparatus in mind, one I have used for some years with satisfaction, consists of

a set of small zinc pipes joined to an upright construction that contains a small boiler at the top and a space for a lamp at the base. At the side of the boiler there is an opening in which a chimney is fixed, the upper end passing through a lead pane purposely inserted in the roof of the greenhouse. Thus all fumes from the lamp pass outside. By means of rubber rings the pipes fit closely into sockets near the boiler and the whole apparatus can be fixed in an hour. A duplex burner paraffin lamp is provided and if this is properly trimmed, kept clean and carefully tended, the pipes get warm in an hour and become hot soon afterwards. It is possible to keep the greenhouse about 10° warmer than the temperature out of doors. The use of a small iron pipe is advised, one end being inserted in a hole at the base of the greenhouse and the other end placed near the lamp to create a draught and cause the lamp to burn brightly. Water is poured into the pipes at the far end of the apparatus, and must be replenished from time to time. Possessing a heater of this kind one may grow such flowers as Primula, Cineraria, Calceolaria, Perpetual Carnation, Roses in pots and many others.

Lily of the Valley.—In growing Lily of the Valley in pots for the greenhouse it is necessary to purchase flowering crowns, or, if they are lifted from the home garden, to choose only those that are plump and thick. Thin, pointed crowns will not bloom. A "crown," it may be necessary to explain, is an individual root of Lily of the Valley. For potting at this time of year ordinary flowering crowns are suitable; they are potted firmly about an inch apart, in pots of soil, placed in a frame for four or five weeks and kept dark. At the end of that time they may be brought into the greenhouse. Under this method of treatment leaves will appear with the flowers. If the roots are potted and placed directly in the greenhouse the flowers will appear before the leaves. The simplest way to force Lily of the Valley is to purchase

retarded crowns; they start into growth in a few days when placed in warmth and flowers and leaves come together. They will be in bloom in from four to six weeks, according to the temperature of the greenhouse. Retarded crowns can be grown with great success in bowls of fibre in the home.

In the Fruit Garden

Gathering and Storing Fruit.—It is not necessary to insist upon the importance of gathering hardy fruits at the correct time, and of storing them properly; this is obvious when one considers that the year's labour in other directions may be nullified by lack of attention when the fruits are ripening. There are two simple general tests by which one may know whether or not an Apple or a Pear is ready to gather. One way of ascertaining this is by lifting the fruit gently; if it then becomes detached from its shoot, it may be considered to be in a fit state to gather. If, however, it does not part readily from the branch it should not be removed. Another method is to cut open one or two fruits and examine the pips; if these are black one may be satisfied that the fruits are sufficiently ripe; if the pips are still white, the fruits ought to remain longer on the tree. It is necessary to watch the early varieties carefully; they mature quickly and, if left on the tree too long, become over-ripe and are spoilt. Among early Pears are Citron de Carmes, Doyenné d'Été, Jargonelle and Williams' Bon Chrêtien. Of early dessert Apples there are Mr. Gladstone, Irish Peach, Devonshire Quarrenden, Beauty of Bath, and James Grieve; among cooking sorts, Lord Grosvenor, Lord Suffield, Duchess of Oldenburg, Potts's Seedling and Early White Transparent. All these are ready for gathering in August or September and in those months they ought occasionally to be examined. Early Pears will be ready for use a few days after

gathering; early Apples may be kept some weeks if desired.

Although, when dealing with early Apples and Pears, it is important not to let them remain on the trees too long, it is equally necessary not to gather late sorts too soon. If removed before they are ready, the fruits are likely to shrivel and will not develop their true flavour. Hence the necessity for applying the tests already referred to in case of doubt. Amateurs are not sufficiently careful in handling fruits; a bruise may not show at the time, but it will inevitably do so afterwards, and where the fruit is bruised, there will it decay; when stored it is liable to infect others with which it comes in contact. The essential conditions for the successful storage of fruit are coolness and moisture. Probably the reason why amateurs fail to keep their Apples satisfactorily is because they put them away, whether they are wet or dry, immediately after gathering. They do not appreciate the fact that even if Apples are gathered in dry weather, the skins are naturally moist, and until this moisture has been lost, they are not in fit condition for storing.

A few days after being gathered Apples go through the process known as "sweating" and during this time, a cool and airy place is essential. When the skins have lost their moisture and become comparatively dry it is safe to place the fruits in permanent storage. Few amateurs have a specially-built fruit room, and have to make use of existing facilities. The worst possible place is a dry loft, and this is, unfortunately, frequently chosen. Moisture is essential to the proper storage of Apples, and in its absence the fruits will shrivel. A cellar is preferable to a loft; failing this, a shed or room on the ground floor ought to be selected. There the atmosphere is naturally less dry than in a room at the top of the house. The fruits may be placed on lath shelves or on thoroughly clean straw

on the floor or in barrels; they keep better if arranged in one layer, but this is not always convenient. If heaps have to be made, let them consist of the smaller and less valuable fruits. It is necessary to look over the Apples frequently, and to remove those that show signs of decay. Otherwise many fruits will be spoilt. In gathering Pears it is wise to take special care in handling them for they are more easily bruised even than Apples. They ripen best in rather warmer and drier conditions than Apples, and an ordinary room is as satisfactory as anywhere in the absence of a proper fruit room.

One's stock of Gooseberries and Red, Black, and White Currants may be increased at this season without difficulty by means of cuttings. These ought to be chosen from firm, hard shoots of the current year's growth, preference being given to those from 9 to 12 inches in length. To form the base of the cutting it is necessary to cut immediately beneath a bud or joint. In the case of Gooseberries and Red and White Currants it is wise to remove all except the four uppermost buds so that the bushes shall have stems clear of the ground. The cuttings must be inserted firmly in a sheltered spot out of doors, only one third of each cutting being above the soil surface.

Grease-banding Fruit Trees.—The caterpillars of the winter moth do a great deal of damage to fruit trees and other garden plants in spring and early summer by feeding on the buds, blossoms and leaves, and the present is the best time to seek their destruction by grease-banding. The object of fastening sticky bands round the tree stems is to prevent the wingless female moths from ascending for the purpose of depositing their eggs on the shoots and branches. The old-fashioned plan was to place bands of strong brown paper on the stems about 2 feet from the ground and to smear them with cart grease, and to renew this substance period-

ically during autumn and winter. The modern way is to use grease-proof instead of brown paper, or better still to apply a preparation called Bandite directly on the stems; the latter is, of course, more expensive than cart grease, but it has the advantage of remaining sticky, and therefore effective until spring.

In the Kitchen Garden

The chief work in the kitchen garden this month is that of storing root crops such as Beetroot, Carrot, Salsafy, etc. Most gardeners leave the roots of Parsnip and Jerusalem Artichoke in the ground, to be dug as required, taking the precaution to cover the ground surface with litter at the approach of cold weather. Carrot and Beetroot are often stored in sand; Turnips in any frost-proof shed. Beetroot tops should be twisted off and Carrot tops cut off about 1 inch above the root. Onions keep well in any frost-proof shed, preferably hung up in bunches.

Celery ought to be finally earthed up towards the end of the month, care being taken that soil does not enter the centres of the plants. When the work is finished, only the tops of the Celery ought to be visible. Those who have planted Cardoon should now earth up this. The leaves are tied together and paper bands are placed round them, the final earthing of soil then being given. They will be ready for use in November and December.

Rhubarb roots, if lifted now and placed in an open shed for a week or two, may be forced into growth more readily than if lifted and placed directly in warmth. To obtain blanched Chicory, roots should be lifted (the leaves being cut off) and placed in a box of soil in a dark place; no warmth is required. If the soil is kept moist they will soon start into growth. Seakale may be lifted for forcing as soon as the leaves have fallen; the

roots are put in a box of soil, in a dark and warm shed or other place.

It is important to gather and burn dead and decaying leaves, Potato haulm, and rubbish generally; there is no simpler and better means of getting rid of disease spores and insect pests and of insuring, to a considerable degree, immunity from these troubles another season.

Those who have a dark shed in which a temperature of 55° can be maintained may make up a Mushroom bed; the proper material for this is horse manure, which must be made into a heap as it becomes available, and be turned frequently. At the end of ten days it is used for forming the bed, which should be from 12 to 15 inches thick after having been trodden firmly. When the temperature of the bed has declined to 85° the pieces of spawn are inserted, 1 inch apart, and 1 inch deep. A covering of sifted soil 1 inch in thickness completes the work. If the requisite temperature is maintained, and the bed is moistened as becomes necessary, Mushrooms will appear in about six weeks and continue for about two months.

It is pleasant to be able to gather a few dishes of Peas in May, when they are still a luxury, and this may be done if four or five seeds are sown in 4-inch flower-pots now; they must be kept quite cool during winter and repotted in late March, or planted out of doors early in April.

NOVEMBER

Autumn Work for Summer Flowers

A TOUR of the garden at this season of the year is apt to prove dull to the unimaginative, but it is not without interest to those who realise the value of looking forward and making timely preparation for the flowers and crops of another year. If one has planted with the object of prolonging the charm of the garden as late as possible, a few flowers still offer greeting. The rose-pink blooms of the Neapolitan Cyclamen and the crimson flowers of Cyclamen europaeum linger among the beautifully marked leaves; a stray Christmas Rose has anticipated its welcome; the yellow Jasmine has commenced its long season of bloom; the American Witch Hazel (Hamamelis virginica) is comparatively gay with yellow blossom; the Traveller's Joy (Clematis Vitalba) is a mass of grey, fluffy bunches, among which, if one has trained it over a Japanese Briar, the orange-red fruits of the latter glow brightly; Chrysanthemums and autumn Roses still give colour to the borders. But it is chiefly to the autumn leaves that one must look for colour now — the Japanese Maples, the Persian Parrotia, Sumach, Azalea, Berberis, and others; to the fruits—the hips and haws of Roses and Thorns, the berries of Rockspray and Pernettya, and the Crabs; and to the stems—of Willow, Dogwood and White Bramble.

Among the Hardy Flowers

Autumn Tints.—All trees possess greater or less attraction when "autumn's fire burns slowly along the

woods"; even those that in themselves have few claims to beautiful tinting add variety and give increased charm to the whole display. Some trees and shrubs are especially fascinating in their autumn colouring, and their inclusion in any scheme of planting adds immensely to the gaiety of the garden while the flowers are passing. Probably none surpasses the Iron tree (Parrotia persica), of which the leaves show shades of crimson, brown and rose; or the Cockspur Thorn that glows warmly in the mist of a November afternoon. The stately Maidenhair tree (Ginkgo biloba) is exquisite in its shroud of pale gold leafage, and the Deciduous Cypress (Taxodium distichum) attracts by its colouring of soft red-brown. The Azaleas, so brilliant of blossom in May and June, again strike a note of rich colour in the vivid and varied tinting of their fading leaves, and one may say the same of many of the Barberries. Even the homely green of Mahonia (Berberis Aquifolium) purples at the approach of autumn, though most gorgeous of all is Berberis Thunbergii, of which the foliage passes in flaming red. The tints of the Japanese Maples are especially fine, while of Rhus cotinoides (one of the Sumachs) one cannot speak too highly. The June berry (Amelanchier Canadensis), the Liquidambar, the Witch Hazels, and the Virginian Creepers, all add joyous colouring in autumn. In the choice of trees and shrubs one is apt to overlook the claims of those that add so much to the attractiveness of the garden when the flower year is passing.

All About Roses. — Every garden lover is now thinking of planting fresh Roses, or lifting and re-planting old ones. There is no better time for the work than early autumn. The ideal period may be said to extend from the middle of October to the middle of November, though this by no means limits the season of planting. I have planted Roses late in December and have had an excellent display of blossom the following

summer, and even from Roses planted in March have had quite a fair show of bloom within four months. One really does not know how accommodating Roses may prove to be ; they may adapt themselves admirably to conditions thought likely to put too great a strain on their good nature, and thrive as well as those given orthodox treatment ; yet, on the other hand, they may not, and the planter is left bewailing. This advice reminds one of that given by the financial papers to the reader who wishes to purchase shares ; these may rise in the near future, he is told, but, on the other hand, they may not! However, he is wise who gives his Roses the treatment that is generally considered to ensure success, and the chief article of orthodox Rose faith is to plant in early autumn. If Roses are well and truly planted they may remain undisturbed for years; they will increase in vigour and floriferousness as the seasons pass, and finally develop into sturdy bushes that seem to hold an indefinite lease of life. Too much reliance cannot be placed upon deep digging ; its proper performance is worth loads of manure, and its good effects will outlast those of the latter. Most of my own Roses were planted six or seven years ago and have not been disturbed, but they are in soil that was trenched to the depth of 3 feet and manured at the time.

Although lifting and replanting may be, and certainly are, beneficial when Roses are in ill-health, I believe that frequent transplantation is wrong. Some growers make a practice of replanting their bushes about every three years, with the object of imbuing them with fresh youth and vigour. But they usually need one season in which to recover fully from the disturbance to the roots, and, if the work is carried out negligently, they may be so weakened as to dwindle and die.

Making a Rose Bed.—Different kinds of land need different treatment. If there is clay, gravel, sand or chalk within 18 or 24 inches of the surface, the only hope

of growing good Roses lies in removing some of it, and replacing with turf soil, otherwise called loam. There is nothing like trenching from 2 to 3 feet deep for improving average land. Farmyard manure and basic slag are the best manures to add to clayey loam, which is the kind of soil found in most gardens. The slag, a slow-acting fertiliser, is applied at the rate of 6 oz. to the square yard; this and the yard manure should be mixed with the soil beneath the roots, say, from 12 to 15 inches deep. Farm manure is now difficult to obtain in many districts, and an efficient substitute is found in Wakeley's Hop Manure. Spent hops in themselves have little manurial value, though they may be mixed with light soil to improve its mechanical condition, and are also of service for top-dressing in early summer to prevent loss of moisture by evaporation. The best material to dig in light land is chopped turf, and burnt soil is most useful for lightening clayey ground and rendering it more workable.

The question is often asked whether yard manure, applied to the Rose beds in autumn, should be left on the ground throughout the winter, or forked beneath the surface. I believe the latter to be by far the better practice. Its presence on the surface of the beds prevents exposure of the soil to the beneficial action of natural agencies, such as frost, rain, snow, and sunshine. Soil covered by a mass of manure is bound to remain wet and cold, and many roots, especially as they are inactive, are likely to perish.

It is advisable to prepare the ground a week or two in advance of planting to allow the soil to settle; if the Roses are put in while the ground is loose, the stems may be left high and dry, or buried too deeply, as they have been loosely, or firmly, planted. The chief items to bear in mind when planting are to cover, with an inch of soil, the point at which the Rose was budded on the stock (denoted by a knob-like swelling); to spread out the roots;

A TYPICAL BLOOM OF JAPANESE CHRYSANTHEMUM

GOLDEN-RAYED LILY (LILIUM AURATUM) GROWN IN FLOWER-POT

and to tread the soil firmly as it is filled in. It is a mistake to fill it all in and then tread it down. Roots that are bruised or broken should be cut back as far as is necessary, and other thick ones, bare of fibrous roots, may be shortened also, as much as one-third being cut off. Before the final covering is put on a little bone-meal may be scattered in the soil immediately above the roots, though it ought not to come in actual contact with the latter. If the ground is very wet it becomes a difficult matter to work the soil well among the roots; it is therefore wise to have a bushel or two of dry soil at hand. As all the shoots of dwarf Roses are best pruned hard in the spring following planting, those that are more than 12 inches in length may be cut back to that height when the bushes are put in, and those of climbers ought to be partially shortened.

The selection of suitable varieties is of the first importance, for some are so much more satisfactory than others. Those who grow for garden display only will, judging from my own experience, scarcely find a better two dozen than those to be named.

Good Garden Roses.—Catalogues rarely give the bad points of a Rose and, on reading the descriptions, one might well imagine them all to be without fault or flaw. I do not claim for these that they are perfect, but when a fault is so pronounced as to call for comment attention is directed to it. I should include Caroline Testout and Frau Karl Druschki, because they are not really surpassed as a pink and white Rose respectively. The blooms of the former are of rather coarse form and scentless, but they come freely in summer and autumn. Both this and Frau Karl Druschki make splendid standards. The latter Rose may be grown as a big bush, and lightly pruned, after the first year or two, or the long shoots may be pegged down. Margaret is a beautiful pink Rose of perfect form. Ophelia is a splendid Rose of yellow and rose shades. James Coey is

a charming sort, deep yellow in the centre, paler towards the edges; the blooms are not very large, but they come freely in July and again in autumn. General MacArthur one must have as a red Rose, and what a splendid standard it makes; the flowers are rather thin. As a salmon-pink, Madame Abel Chatenay is unsurpassed; the long stems render the blooms ideal for cutting. Richmond is an excellent red variety, especially good in autumn, while the exquisite buds and loose blossoms of Betty, rose, yellow and cream shades, are indispensable. Prince de Bulgarie, blush and yellow, is a first rate Rose; it grows vigorously and produces big blooms freely on strong stems. Joseph Hill, yellow and rose shades, is of perfect form, but it has a habit of forming one or two strong shoots to the disadvantage of all others. Duchess of Wellington, orange-yellow, often with reddish shading, is deliciously scented and worth growing for this reason alone, though it is altogether good. The Lyon Rose one must have for its wonderful colouring, pink and orange shades; the blooms droop, and it is therefore best as a standard. Gustav Grunerwald is a distinct bright shade of rose-pink, and blooms well throughout the season. Pharisaer, having finely formed flowers of salmon and blush shades on long stalks, is one of the finest decorative Roses. G. C. Waud is a new shade of colour, almost vermilion, and the blooms are of good form, though the plant is none too vigorous. Jeanne Philippe is a charming variety of soft yellow colouring, rather thin, but fine for garden display. La Tosca can scarcely be omitted from the list, for its salmon-rose blooms, though not very large, are freely produced all the season.

All those named, with the exception of Frau Karl Druschki (Hybrid Perpetual) and Jeanne Philippe (Tea), belong to the Hybrid Tea class, which is characterised generally by free growth, continuous flowering, and beautiful buds, though in some varieties these soon become

full-blown flowers. I should complete the two dozen with the following: Mrs. John Laing, pink, and Hugh Dickson red (both Hybrid Perpetuals), the latter a vigorous Rose that ought really to be trained on a fence, or pillar, or allowed to grow into a big bush; Madame Antoine Mari, lilac-rose and white, a perfect little Tea; Madame Hoste, a cream-coloured Tea; Lady Roberts, orange-yellow, also a Tea Rose; and the clear yellow Pernetiana Rose, Rayon d'Or.

I am conscious that many perhaps equally good varieties have been omitted from the list, and I cannot resist the temptation to mention a few more particularly attractive Roses. One of the best dark crimson Roses I have is Louis Van Houtte; it grows well with me, though usually classed as of weak growth. Fisher Holmes, an old variety, and H. E. Richardson, a new one, are two other good crimson Roses. Mrs. Stewart Clark is similar to Hugh Dickson in vigour of growth and size of bloom, but the colour is rose-pink; it is very showy and a large bush makes a splendid display. Its faults are that the flowers are scentless (a fault, alas! that can be urged against many modern Roses) and they appear only in summer. Avoca is a beautiful crimson Rose, fragrant, and of excellent form; it is vigorous and may be grown as a pillar, or pegged down to form a bush; it blooms scarcely at all in autumn. Commandant Félix Faure is another fine Rose of dark colouring, crimson with blackish shading, but it does not flower much in autumn. Madame Léon Pain, silvery rose, is one of the best garden varieties, vigorous and almost always in bloom. Madame Mélanie Soupert is charming, with flowers of yellow and peach shades, but it seems to need a warm position, and I have found it to be only moderately free of bloom. Lady Hillingdon, with long pointed blooms of orange-yellow, is best, I think, as a standard and should be given a warm position. Other Roses I can recommend are Lady Waterlow, pale rose,

vigorous; Grace Darling, cream and rose, almost always in bloom; Lieutenant Chauré, red; Mrs. Amy Hammond, pale amber; Rosomane Narcisse Thomas, reddish apricot; Comtesse du Cayla, nasturtium red and yellow, a dainty little Rose, always in bloom; Arthur R. Goodwin, bronze and yellow shades, makes a delightful standard; W. R. Smith, cream white shaded with pink, bears beautiful blooms on long stems that droop; Mrs. Sophia Neate, salmon-pink, a Tea Rose of more than usual vigour; Mrs. Herbert Stevens, white, a splendid Tea with faint rose shading; Hugo Roller, Tea, pale lemon with rose shading, not very vigorous, but altogether delightful; Harry Kirk, a good yellow Tea; Anna Olivier, rose and buff, Tea; G. Nabonnand, pale rose and yellow, Tea; Natalie Bottner, cream-yellow; Mrs. Alfred Tate, reddish copper shades; Mrs. David McKee, cream; Melody, saffron-yellow; Madame Edouard Herriot, coral-red, Pernetiana; Chrissie McKellar, yellow and rose shades. All are Hybrid Teas unless otherwise described.

A few climbers that appeal especially to me are Tausendschön, rose; Rubin, rose-red; Shower of Gold, little yellow buds and whitish flowers; Alberic Barbier, yellow buds of perfect form and white flowers; Trier, single, white, flowers throughout the summer: Zéphirine Drouhin, the Thornless Rose, rose-coloured, splendid for a fence, blooms all summer; Noella Nabonnand, crimson; Réné André, salmon, rose and yellow. There are, of course, very many others worthy of space in a garden, such for example as Dorothy Perkins, pink; Hiawatha, single, crimson; Lady Godiva, pale pink; American Pillar, large single, pink blossoms; Blush Rambler, apple-blossom colour; Edmond Proust, carmine and bronze shades; Sander's White, perhaps the best of the white ramblers; Hélène, pale rose with mauve tinge; Joseph Billiard, deep rose and yellow, single; Minnehaha, rose colour; Rêve d'Or, yellow; Tea Rambler, copper and pink.

Perpetual Flowering Climbing Roses.—Rambler

Roses have been so consistently lauded during recent years and so widely planted that one is liable to overlook the claims of less vigorous climbing Roses which have a long season of bloom. In a garden of moderate size the wichuraiana and multiflora Roses are somewhat embarrassing owing to their rampant growth, and it is only by allowing them to spread as far as they will that one can have these Roses at their best. An Alberic Barbier, for instance, that I have covers between 30 and 40 feet of fencing, and I am inclined to grudge so much space to one variety, because by planting other and less rampant sorts I might add greater variety, and consequently gain greater pleasure. The Roses that seem to me to be unduly neglected are the climbing Teas and Hybrid Teas particularly. It is true they do not produce such a gorgeous display in high summer as the ramblers, but, on the other hand, their buds are often of perfect form, and one may gather flowers throughout summer and early autumn. They are suitable for walls and for training up poles and pillars 6 to 8 feet high, and it is possible to accommodate quite a fair number in comparatively limited space. A few charming Roses of this type are Florence H. Veitch, crimson; Climbing Liberty, red; Hugh Dickson, red; Lady Waterlow, rose; Climbing Paul Lédé, yellow and rose; Climbing Mrs. W. J. Grant, rose-pink; Climbing Lady Ashtown, pale rose; Climbing Caroline Testout, pink; Avoca, crimson; Noella Nabonnand, crimson; Climbing White Maman Cochet; Climbing Marquise de Sinety, yellow and red shades; Madame Hector Leuilliot, yellow and orange. It is not wise to prune Roses of this kind severely in March following planting; one should shorten the stems to sound wood then, and in future years cut out one or two of the old stems annually to encourage fresh growth from the base.

Old-World Roses.—There are still some garden lovers who treasure the old-world Roses, it may be for

their associations, for their fragrance, or for the mere pleasure of possessing them. It must be confessed that many of them have no real worth as garden flowers, if one judges them in comparison with modern varieties. Nevertheless, it is a melancholy thought that such flower links with the past are wearing so thin that the final breaking cannot be far distant. Those most likely to persist are the fragrant ones. The fault of old-world sorts, as Roses are appraised nowadays, lies in their being summer-flowering only, and doubtless, for this reason, they will never again be planted freely. For delicious Rose perfume, the old Cabbage or Provence Rose is not surpassed, and those who value this quality above all others in Roses should plant a bush or two. Both this and the Moss Rose, which is a near relation, are hardy and long-lived, especially when raised from cuttings, and thus grown as own-root Roses. Moss and Provence Roses soon degenerate in the hands of unskilled growers, forming loose, ungainly bushes, bare at the base and full of weakly shoots at the top. The reason is not far to seek; it is found in injudicious pruning. In autumn, old, weakly, worn-out shoots should be removed and, in spring, the remaining growths ought to be fairly hard pruned. Then the plants make sturdier growth, give better blooms and are altogether more satisfactory.

The old York and Lancaster Rose, striped red and blush, is a variety of the Persian Damask, now seldom grown. More commonly met with under the same name is Rosa Mundi, a handsome flower, striped crimson and white; it is not a Damask at all, but a variety of Rosa gallica, the old French Rose. Of the real Damask Roses the Old Red is best worth garden space. It associates charmingly with the Madonna Lily; both are in full beauty at the same time, and, if freely grouped together, provide a delightful display of old-world flowers. The useless shoots should be cut away in late summer or autumn, and in spring the remaining growths need only be shortened

slightly, say, by about one-third. Some of the varieties of Rosa alba (Maiden's Blush Roses they are generally called) are well worthy of inclusion in a collection of Roses of other days. They grow strongly and bloom freely in their summer season. Maiden's Blush, Celeste, and Félicité Parmentier, all pink, are the best. The Hybrid China Roses are now represented chiefly by that fine climbing variety, Blairii No. 2, which bears pale pink blossoms freely and is still often to be seen in gardens. Old, weakly stems need to be cut out when the flowering season is over. The Thornless Rose, Zéphirine Drouhin, belonging to the Bourbon class, is still one of the most valued of garden Roses; it grows well and bears fragrant rose-coloured blooms throughout summer and autumn. Souvenir de la Malmaison is another Bourbon Rose met with in gardens, but I could never get it to flower satisfactorily; it seems to need an unusually warm position. Still another valuable variety is called Hermosa or Armosa; this is very much like a China Rose, and soon develops into a small bush that blossoms freely all the summer and autumn. The pruning of the Bourbon Roses takes the form chiefly of thinning out weakly stems in autumn and slightly shortening the remaining ones in spring.

There are several valuable climbing varieties among the old-world Roses. Aimée Vibert has bold leafage that is practically evergreen, and big, loose bunches of white flowers that are in full beauty in August. It has the advantage of thriving satisfactorily in the shade. I have a plant on a fence facing north that, in company with Conrad F. Meyer (a splendid Japanese Briar, bearing big pink, fragrant flowers in May and June), gives quite an air of cheerfulness not common to a sunless fence. Bennett's Seedling, one of the Ayrshire Roses, blooms with remarkable freedom, the leaves being hidden by a multitude of small white flowers. Félicité Perpétue, or Seven Sisters Rose, which belongs to the Evergreen

or Sempervirens class, is equally floriferous, and its white, rosette-like blossoms have a curious musky odour. The only pruning these old-fashioned climbers require is that given by cutting out weakly stems when the flowering season is past, and, in spring, shortening the side shoots on the remaining branches.

The Mixed Flower Border.—The mixed border of hardy flowers is likely to arouse delight or to produce despair, according as one's expectations are on a level with, or soar beyond the possibilities of the scheme of planting. The average flower gardener demands a border that shall remain bright from spring until autumn, though this is not easily provided. There must be a compromise unless, as in public parks and gardens, where the borders are always gay, there is a reserve plot which may be drawn upon to make good all blanks. With this assistance it is possible to keep a flower border attractive for months together ; without it, one must be content with a brave show in the height of summer, preceded by an accumulative progression of bloom, and followed by a gradual lessening of the display. After all, this is an arrangement following Nature's scheme, and is likely to give the greatest pleasure. The gardener who is content that his border shall progress with the seasons to a full show of blossom at midsummer, and wane at the approach of the dog days, may fulfil his aspirations without great difficulty. He who demands a full dress display in spring, in summer, and in autumn, must open his pocket to satisfy his soul, and provide not one border only, but three borders. When the fading blooms of one give rise to annoyance, he may turn to the next with pleasurable anticipation. The arrangement of a border that shall be bright at one season only is not a serious matter; a far greater tax is put upon the ingenuity of the gardener when he is called upon to provide a succession of bloom in one and the same border. There

must be skilful inter-grouping of the flowers of different seasons, so that the blanks shall be as little obtrusive as possible. If he wishes to introduce a system of colour - grouping, his difficulties will be enhanced, for he is faced with the problem of arranging for a blue flower to follow a blue one, a yellow to follow a yellow, and so on. Generally, I think, a mixed border, especially for the amateur of limited leisure, and possessed of only a moderate knowledge of hardy flowers, is most satisfactory—a border in which no strict colour scheme is followed. It is easier to avoid discords than it is to create harmonious groups.

Problem of the Bulbs.—The present is the best time to replant and rearrange the hardy flower border, and reference to some of the problems that may confront the planter will, at least, have the advantage of being seasonable. One must make free use of bulbs, especially of Daffodils and May - flowering Tulips. They are undoubtedly a nuisance after the blossoming season is past, but this is one of the unavoidable drawbacks of the three seasons border. Those having a reserve plot, in which the bulbs, after they have bloomed, may be planted to complete their development, possess an advantage. But there is no reason why Daffodils and May Tulips should not be included in the scheme of planting, even though the reserve plot is wanting. Most people make the mistake of planting them all over the border—at the back, in the middle and towards the front. It must be confessed that, thus disposed, they provide a more charming show while in bloom, but afterwards they cause no end of bother. The plan I recommend is to group them towards the back of the border, among strong-growing, late-flowering plants such as Michaelmas Daisies, Helenium, Aconitum or Monkshood, and Golden Rod. These form vigorous tufts, which, as the spring advances, hide the decaying leaves of the bulbs. It is, of course, fatal to a successful

blossoming the following season to cut off the foliage while it is still green, though much may be done to keep the bulbs neat by periodically removing the unsightly portions.

Some few plants, if not actually attractive when out of flower, scarcely detract from the appearance of the border. Chief among them are Flag Iris, Heuchera or Alum root, Potentilla, Geum, Gypsophila, Thalictrum or Meadow Rue, Jacob's Ladder or Polemonium, the old Scarlet Lychnis, Lavender and Rosemary, Spiraea Ulmaria (Meadow Sweet), Pinks and Thrift. Of those that flower later, and are therefore fresh and attractive the greater part of the season, one may name Phlox, Globe Thistle or Echinops, Sea Holly or Eryngium, Tiger Lily (Lilium tigrinum), Japanese Lily (Lilium speciosum), Gladiolus, Monkshood or Aconitum, Cimicifuga or Snake-root, Helenium, Veronica virginica, Sedum spectabile or Japanese Stonecrop, Sea Lavender (Statice latifolia), and all the autumn flowers, such, for example, as Michaelmas Daisy, Helianthus or Sunflower, Rudbeckia or Coneflower, Artemisia lactiflora or Wormwood, and others. These should be planted among the Lupins, Oriental Poppies, Larkspurs, Pyrethrums, and other early summer blooms, so that the succession of flowers may be general and the untidiness of fading plants be hidden as far as possible.

Shrubs in the Flower Border.—As has been pointed out, it is scarcely possible by one planting alone to have masses of colour for weeks together; such borders exist only on the artist's canvas or in gardens where, as soon as one prominent group has lost its beauty, it is replaced or hidden by plants grown in pots, or on a reserve border, for the purpose. A further help in preserving the charm and comparative tidiness of the border throughout the season is found in the inclusion of a few shrubs. They are, if not attractive, at least pleasant to look upon when their flowering time has passed. Some of them

have a second period of beauty when the foliage becomes autumn-tinted. Something can be done to prevent a rapid collapse from splendour to untidiness by choosing plants that continue presentable and by cutting down those that do not, such, for example, as Lupin and Delphinium, to induce them to produce fresh growth. An alternative and an excellent plan is to intermingle a few of the many charming Jackmani Clematis; their slender shoots cover the stems of the early-flowering herbaceous plants, and in late summer will spangle them with delightful blossom. Although it is against the accepted canons of gardening to do so, one might here and there introduce a few vigorous perpetual-flowering Roses. By thus adding greater variety and some stability of form as provided by shrubby growth, the border loses nothing in picturesqueness, and is more generally cheerful throughout a longer period. Of shrubs one might choose, among others, a few Deutzias and early-flowering Spiraeas, Berberis, Olearia Haastii (the Daisy bush), dwarf kinds of Mock Orange, a few bushes of Azalea, here and there a standard of ornamental Cherry or Plum, and occasional Lilac and flowering Currant towards the back of the border. Having the shrub groups in position, one can so arrange the offending herbaceous plants that their withering stems and yellowing leaves shall be hidden.

The occasion of replanting is also opportune for dividing tufts that may have grown too big or have become weakly; the outer pieces only should be replanted, the inner and older parts being thrown away. Probably many of the failures with hardy plants are due either to planting too deeply or to neglect to make the soil firm about the roots. Choice herbaceous plants are liable to decay during the winter if planted deeply. As a general rule one might advise that the uppermost roots should not be covered with more than 2 inches of soil.

Nothing is more disappointing, or more disastrous to the display, than to find that some unusually fine clump fails to reappear owing to the excessive wet and cold of winter. It is wise, therefore, to take precautions now, and to cover with a heap of ashes or bracken the clumps of Pyrethrum, Scabious, Gaillardia and others that experience has proved to be of doubtful hardiness in one's district.

Flower Borders of One Colour.—The fashion of planting a border with flowers of one colour finds many devotees, but the practice is scarcely to be recommended to those having gardens of limited extent. One is apt, for example, to tire of a white border before the summer is over, unless the garden contains borders of colour, as of blue, pink, or yellow (though the last is scarcely worth planting, for of yellow one tires soonest), and these, of course, necessitate not only the use of a considerable area of ground, but involve much careful scheming.

Probably the most satisfactory of all borders for the average garden is that in which a full colour scheme is planned, beginning with white, working up through grey, blue, and pink, to rose, yellow, orange, and scarlet. Many charming effects, however, are obtained when planting is practised without regard to strict colour arrangement, providing the plants are in bold, wide groups, and obviously discordant associations are avoided.

Still another way is open to those who prefer large masses of one colour, by arranging a blue, white, and pink border all in one. One begins with the pale blues, and works up to the deep blues, then follows with the whites, and completes the scheme with groups of pink flowers. The difficulty of grouping large masses of one colour is to find plants that will give a satisfactory and continued display. It is a great mistake to plant in formal groups, those of irregular formation are best. In planting a blue, white, and pink border, for instance, there should not be three well-defined blocks of colour;

the blue flowers might be continued for some distance behind the white ones, those of pink shades in front of them. One should aim at disposing the plants in drifts, rather than in set groups.

A White Border.—One can begin with Snowdrops, white Crocuses, Christmas and Lenten Roses, the Star-flower (Triteleia), and white Hepatica, and continue the spring display with Daisies, Narcissi, double and single Arabis, Wood Anemone (nemorosa), Erica carnea alba, and Primula denticulata alba. In early summer come white Tulips and Irises, Eremurus himalaicus, evergreen Candytuft, followed by Pyrethrums, Achillea The Pearl, white Violas, Sidalcea candida, Spiraeas Aruncus and filipendula, white Paeonies, and Oriental Poppies, white Flax (Linum perenne album), white Foxgloves, white Rocket, Gypsophila, Delphinium, Shasta Daisies, Centaurea montana alba, Campanulas persicifolia alba, pyramidalis alba, and lactiflora alba. Then come Astilbe japonica, white Hollyhocks, Phlox Fiancée, Mrs. Jenkins, and Sylphide, Gladioli in light shades, Liliums speciosum album, auratum, and longiflorum, Everlasting Pea White Pearl, Galtonia candicans, Japanese Anemone, white Chrysanthemums, Cimicifuga racemosa, and others, Michaelmas Daisies, and Pyrethrum uliginosum. For edging one may choose from double and single Arabis, Mossy Saxifrage, Cerastium, white Pinks, and white Thrift. Of annuals there are white Snapdragons, white Rose Mallow (Lavatera), Sweet Alyssum, Asters, Stocks, white Cornflowers, white Tobacco, Collinsia candidissima, annual Lupins, Candytuft, Virginian Stock, Matricaria eximia flore pleno, white Nemophila, and Mignonette.

A Blue Border.—Among flowers of blue shades there are many that open in early spring, such, for example, as Scilla, Chionodoxa, Anemone apennina, robinsoniana, blanda and Hepatica, Hyacinthus azureus, and Grape Hyacinths. These might be followed by some of the Darwin Tulips of lavender shades, Mertensia sibirica,

Primula denticulata, Aquilegia, Flag Irises, Forget-me-not, Lupin, Anchusa, Phlox divaricata, Polemonium Richardsoni, Aster subcoeruleus, Delphinium in variety, Geranium ibericum, Platycodon Mariesi, Echinops ritro, Campanulas carpatica, persicifolia, glomerata, pyramidalis, and lactiflora, Eryngium oliverianum and others, Catananche coerulea, Echium vulgare, Centaurea montana, Linums perenne and narbonense, Jasione perenne, Statice latifolia, Aconitum napellus and others, Salvia virgata nemorosa and patens, Veronica longifolia and spicata, Viola Maggie Mott, Phlox Le Mahdi, Iris and Paul Bert, Gladiolus Blue Jay, Tradescantia virginica, Michaelmas Daisies acris, amellus, bessarabicus, Beauty of Colwall, Edith Gibbs, and others. For edging one might have Aubrietia deltoidea and the variety Lavender, and, if it succeeds, the exquisite Gentiana acaulis. Then of annuals to fill vacant spaces there are Commelina coelestis, Nemophila insignis, Love-in-a-mist, Asperula azurea setosa, Asters, Cornflowers, Sweet Peas Helen Pierce and Lord Nelson Spencer, annual Lupin and Larkspur, the blue Nemesia, Phacelia campanularia, the Clary (Salvia horminum), and Whitlavia grandiflora, while the spreading blue bedding Lobelia is not to be despised for use as a groundwork or an edging.

A Pink Border.—There are not enough true pink flowers to go round, so that rose shades must be utilised. Earliest of all are the Hepaticas, followed by Hyacinths and Tulips, the Lyre flower (Dicentra spectabilis), Moss Pink (Phlox subulata), Primula frondosa, Daisies, Mossy Saxifrage Guildford Seedling and others, pink Bluebells, Aubrietias Fire King and Bridesmaid. Then come Pyrethrums, pink Lupin, Thrift, Pinks, Carnations, Sidalcea Listeri, Malva moschata, Valerian, pink Canterbury Bells, Geranium Endressi, Paeonies, Oriental Poppies, Spiraeas Apple Blossom and Queen Alexandra, Astilbe Ceres and others, Thalictrum aquilegifolium, pink Hollyhocks, Foxgloves, Heuchera Edghill variety and others, Loosestrife,

Lychnis viscaria splendens, Phlox in variety, notably Mrs. Oliver and Paul Fliche, pink Gladioli, Japanese Anemones, pink Chrysanthemums, Michaelmas Daisies Perry's Favourite and Edna Mercia. Among annuals there is plenty of choice in pink Sweet Peas—*e.g.* Countess Spencer, Princess Victoria, Mrs. Hardcastle Sykes, and Hercules; then there are, of course, Stocks, Asters, Snapdragons, Clarkia, Godetia, Rose Mallow, the lovely rose-coloured Larkspur, Gypsophila elegans, Shirley and other Poppies, and Statice Suworowi.

May-flowering Tulips.—Probably no group of garden flowers proves so valuable to the gardener, or blooms at such an opportune moment, as the May-flowering Tulips. They have most of the attributes of a perfect flower; they are tall and stately, on strong stems, their colouring varies from bizarre to the most exquisite, and they last comparatively long in beauty. There are two chief groups of May-flowering Tulips, the Cottage and Darwin varieties. The former are so called because those from which the modern highly-developed sorts have been evolved were grown years ago in English cottage gardens, whence they were rescued from obscurity by the florists and made use of in the production of the present race of flowers. For the original Darwin Tulips we were indebted to a firm of Dutch bulb growers. Both these groups come into blossom when there is a blank in the succession of hardy flowers; the last of the Daffodils and other flowers of spring have faded, and those of early summer have not yet made their *début;* the Lilies, Larkspurs and Lupins are still in bud when the last of the May Tulips loses its petals. No garden can dispense with them. Formerly the distinctive characters of each group were well marked, but to such an extent has cross-breeding been carried, that it is not easy to classify some of the modern varieties. The chief points of distinction are these: the blooms of the Darwin Tulips are cup-shaped, rather shallow and

round, and their colouring is often unusual; bronze, purple, lilac-grey, white, dark crimson and rose are the shades chiefly represented. The flowers of the Cottage Tulip are of more graceful outline, long, rather narrow, and tapering, and the colouring brilliant—chiefly scarlet, orange-red, yellow, pink, or allied tints.

Early November is an ideal time to plant the bulbs of these splendid flowers. It is worth while to prepare the ground well for them because, despite the advice of the Tulip specialist to lift the bulbs every season, they may be left undisturbed for several years. If yard manure is dug in the ground it should be put at least 12 inches deep, for it is a mistake to allow the bulbs to come into contact with it. Bone meal applied at the rate of 3 or 4 ozs. to the square yard, 8 or 10 inches deep, is an excellent fertiliser to use. Deep planting is essential, and the top of the bulb should be not less than 4 inches beneath the soil. May-flowering Tulips sometimes fail owing to the attacks of a fungus, the effects of which are commonly referred to as "fire," and are seen in disfigured and, in a bad attack, ruined foliage. The use of sulphur at planting time seems to be the only preventive that has been recommended. Nothing can be done to cure the malady when the leaves become affected in spring, although spraying wtih Bordeaux mixture is advised. The bulbs ought not to be grown in the same soil for two or three years after having been attacked by this disease.

There are innumerable varieties of both Darwin and Cottage Tulips. A few of the finest of the former are Harry Veitch, dark crimson; Margaret, pink; Isis, red; Rev. H. Ewbank, heliotrope-grey; Pride of Haarlem, bright carmine; Clara Butt, rose; Dream, rosy-heliotrope; Europe, red; Loveliness, rose. Among Cottage Tulips one should have Inglescombe Pink; Mrs. Moon, yellow; Primrose Beauty, cream-yellow; The Faun, rose and fawn; Yellowhammer, yellow; Columbus, yellow

An Old-World Border at the Chantry House, Sevenoaks

and red; La Merveille, old rose and buff; Orange Globe, red and rose.

There are some wonderful flowers among the Tulip species, or wild types of other countries. Tulipa Greigi, for instance, has very large flowers of orange and scarlet colouring; kaufmaniana is cream-coloured; ixioides, yellow; gesneriana lutea, rich yellow; elegans, red-crimson; vitellina, primrose; Sprengeri, orange-red; sylvestris, yellow; macrospeila, crimson-red. Unfortunately the bulbs of the species and named varieties of May-flowering Tulips are somewhat expensive, but the latter may be bought in mixture at a much cheaper rate.

Worms on the Lawn.—The care of the lawn in winter is of some importance, and attention at this season helps towards the production of a close, clean sward in summer. While the ground is very wet and, therefore, soft, the best thing one can do is to keep off the lawn; at other times much good is accomplished by sweeping and rolling frequently. Worms are a great nuisance, and if watering with lime water does not get rid of them, recourse may be had to one of the special worm killers of which there are now several on sale. The effect on the worms is remarkable. I have seen astonishing results achieved by even one dressing. The powder was applied in the morning of a wet day, and by the following afternoon several barrow loads of worms were swept up. The worm killer should be scattered on the surface during rainy weather so that it may be washed in quickly; it then takes effect at once. One should not lose sight of the fact that the action of worms in the soil is entirely beneficial, so far as the needs of plants are concerned. In their numbers they move a great deal of soil, thus cultivating and aerating it to a considerable degree. It is only owing to the nuisance caused by worm casts on the surface that greenkeepers and gardeners wish to get rid of

them, but so far as the welfare of the lawn is concerned it is probable that just as much harm as good is done. The casts on golf greens are more than usually exasperating, because the greens are in constant use throughout the year. Garden lawns, however, are not very tempting to walk upon in winter and, when practicable, it is, I think, far better not to destroy worms in this wholesale fashion, but to content oneself with sweeping off the casts with the garden besom, for the very act of doing so benefits the grass.

Weeds on the Lawn.—The subject of weeds on the lawn is, alas ! one of perennial interest, for they are always with us. A weed has been defined as a plant in the wrong place, and this is certainly true of those that infest the lawn. Weeds may be divided into two classes, tap-rooted and fibrous-rooted. The former have strong roots that descend deeply ; common examples are Dandelion, Plantain and Dock. These, if not the most difficult to get rid of, occasion the greatest labour, for dressings of various kinds that may be considered likely to destroy shallow-rooting weeds have little real effect upon them. The simplest and the best remedy, short of digging them out by means of a handfork, is to pierce the centre of each one with a pointed stick, having a little notch at the end, that has been dipped in some poisonous liquid, such as sulphuric acid. The Buttercups (particularly Ranunculus repens), though not accurately described as tap-rooted, are most efficiently dealt with in the same way. The best time to do this work is during late autumn or winter, when the weeds are comparatively dormant and their recuperative powers are at their lowest. Lawn sand may also be applied for their destruction, though it is most effective in the case of Daisies.

The fibrous-rooted weeds, those of which the roots are near the surface, are many and varied, and they are probably more harmful, if less unsightly, than the

vigorous tap-rooted kinds, since they spread quickly, smothering the surrounding grass and, if not destroyed, eventually taking its place. Chief among fibrous-rooted weeds are Chickweed, Pearlwort and Daisy, while sometimes Selfheal (Prunella) is troublesome. Some of these may, to a considerable extent, be removed by means of an iron-toothed rake. Subsequently there is nothing better than a dressing of lawn sand now and again in early April; this is particularly useful in getting rid of Daisies. Its effect is to turn the grass brown, but it quickly recovers in spring and early summer. Weeds rarely spread if the lawn is regularly manured, as it too seldom is, for it is only when the grass becomes thin and weakly that weeds are able to make headway. An excellent autumn dressing for the lawn consists of a mixture of 5 parts bonemeal and 1 part kainit or wood ashes, applied at the rate of 2 oz. per square yard. Some of the quick-acting, proprietary fertilisers, such as guano and Clay's Fertilizer, are excellent for application in spring and early summer, and have a marked effect on the growth of the grass. Lawn sand may be made by mixing ½ lb. of sulphate of iron (copperas), 1½ lb. of sulphate of ammonia and 12 lbs. of sand. The chemicals must be ground to a powder and thoroughly mixed with the sand.

Moss on the Lawn.—The presence of moss on the lawn indicates either that the ground needs draining or that the soil is poor. The moss should be raked off with an iron-toothed rake, the places then being dressed with sulphate of iron, ¼ oz. per square yard, and finally given a light covering of sifted soil with which lime and wood ashes to the extent of one-fourth of the whole have been mixed. If in spring bare patches show, seed must be sown there. Sand forms a useful dressing for the lawn in autumn, especially on heavy land. Basic slag is often recommended, though its use encourages the spread of clover. The best way to get rid of clover is to use

sulphate of ammonia and nitrate of soda with sifted soil in spring.

Fairy Rings.—These are sometimes a nuisance on the lawn; they are due to fungi which, as they decay, enrich the soil and cause it to assume a deep green colour. Probably the only certain way to get rid of them is to dig out the rings and to fill the holes with fresh soil, first scattering in a little lime or sulphate of iron. Care should be taken to remove a few inches of soil beyond the outer edge of the ring. An alternative plan is to water the fairy rings with a solution of sulphate of iron, $\frac{1}{2}$ lb. to a gallon of water.

Berried and Fruiting Shrubs.—I have never seen a shrubbery planted solely with trees and shrubs that bear showy fruits, but I can imagine it to be well worth doing for the sake of its attractiveness at this time of year, to say nothing of the spring display of blossom. Some of the most striking of ornamental fruiting trees belong to the genus Pyrus, which, of course, counts the Apple and Pear among its members. Of the Crabs probably the showiest are John Downie, the Dartmouth, and the Siberian. The last named has scarlet fruits, and those of John Downie are red and yellow; both are very freely produced. The Dartmouth bears larger fruits of purplish and yellow shades. Pyrus pruuifolia, having red, and Pyrus Ringo, with yellow fruits, together with Pyrus Aucuparia (the Mountain Ash), are others of value for winter colour. The Rocksprays or Cotoneasters too are most attractive. Cotoneaster Simonsi and C. frigida form big bushes, while horizontalis and microphylla are two beautiful low-growing shrubs; all have berries of some shade of red. Among the various Thorns or Crataegus perhaps the best known is Pyracantha, commonly called the Firethorn. This shrub is a familiar sight on house walls, where, in winter, its red berries make a brilliant display. The berries of the variety Lelandi are even brighter in colour. It seems

to be necessary to plant this Thorn against a sunny wall to ensure a full crop of fruits; it is rarely successful in the shade. The Cockspur Thorn (Crataegus crus-galli) bears handsome, dark red fruits, while those of Crataegus mollis are also very showy. Then there is the yellow-fruited Thorn, so rarely grown in gardens; its botanical name is Crataegus oxyacanthoides fructu-luteo. Finally worth inclusion is Crataegus coccinea, having large, bright red fruits. Among the Barberries special reference should be made to Berberis vulgaris, having scarlet fruits.

The Sea Buckthorn (Hippophaë rhamnoides) is an especially attractive shrub or small tree clothed with grey leaves; at this time of year it is striking because of its profusion of orange-coloured berries. The flowers of this shrub are unisexual—the female flowers are on one plant, and the male flowers on another—thus it is necessary to group plants bearing each kind of blossom near one another. The Pernettya is a delightful, low-growing shrub that bears pretty, variously-coloured berries very freely. There are numerous varieties having fruits of different shades of colour, ranging from white, through pink to rose and red. Gaultheria procumbens and Gaultheria Shallon are most useful evergreen shrubs, quite happy under the shade of large trees. The former, a creeping shrub, has red berries; the latter, growing some 2 or 3 feet high, bears purple berries. The shrubs named are quite easy to grow in ordinary loamy soil. The Sea Buckthorn is, as one may imagine from its popular name, a seaside shrub, and it is perhaps happiest in moist ground by the waterside; the proximity of water is not, however, essential to its welfare.

Basic Slag.—This is perhaps the most generally useful of all artificial manures; it is not unpleasant to handle, it is easy to apply and fairly cheap. It is safe because slow-acting, and an excess is likely to do little if any harm, compared with the damage that would

result by applying one of the quick-acting fertilisers in excess. It may be used either with or without yard manure, and is mixed with the soil at a depth of 12 inches or so, when vacant land is being dug, or scattered on the surface and forked in, when applied to beds or borders containing plants. The correct quantity to use is 6 or 8 oz. to 1 square yard, and the best time to apply it is in autumn, so that when the roots again become active the slag may be available for their nourishment. It is an admirable fertiliser for Roses, fruit trees, shrubs and herbaceous plants generally. It is valuable also for application to old garden soil that is deficient in lime, for lime is one of its constituents. Thus when basic slag is used, lime is not necessary unless the soil has been dressed for years with yard manure, and has in consequence become sour. In that case an application of lime is beneficial; its action is to release plant foods that are not at present available. The value of basic slag depends largely upon the fineness to which it is ground; the finer it is the sooner will it be available as plant food, since the roots of the plants can only take up food in liquid form. Basic slag is sometimes recommended for use on the lawn, but it has the disadvantage of encouraging the growth of clover, though a corrective in the form of sulphate of ammonia is available for application in spring. It is a moot point whether on lawns containing only a little clover, basic slag may not be used with advantage in autumn. When clover is already present in excess, it would of course be unwise to do this.

In the Greenhouse

Winter-flowering Begonias.—These are among the most delightful of greenhouse flowers. They are of two kinds, the small-flowered class, of which the popular pink Gloire de Lorraine is typical, and the large-flowered kinds, of which Winter Cheer and John Heal are examples.

The former make little bushes that become smothered in small blossom; the larger flowers of the other class are undoubtedly more handsome, though they are not produced quite so freely. They need a minimum temperature of 60°. Both kinds are increased by means of cuttings. When the flowers are over the plants are kept dry at the roots for a few weeks, for the purpose of giving them rest. Subsequently the stems are cut down, water is again supplied, and when fresh shoots are about 2 inches long they are taken off and inserted as cuttings.

A Blue Winter Flower.—The Coleus is grown chiefly for the sake of the numerous varieties with handsome and richly coloured leaves, but there is at least one kind valued for its blue flowers in winter, viz. Coleus thyrsoideus. This is an admirable plant for amateurs and needs only a temperature of from 50° to 55°. When the old plants have finished flowering the shoots are cut back, and in due time fresh growths will form; these are suitable for cuttings when 2 or 3 inches long, and will form roots without difficulty in pots of sandy soil placed in a case or under a bell-glass in the warm greenhouse. In due course they are potted singly in small pots, in a mixture of loam, leaf-soil and sand, the first-named material in greatest proportion. When well rooted in the small pots, they are repotted in others 5 inches wide. They make quick growth and the points of the shoots need to be taken out occasionally to ensure well-branched plants. This is first done when they are 6 or 8 inches high and again when the secondary shoots are of similar length.

In the Fruit Garden

Many amateurs start flower growing in a more or less haphazard way, perhaps without knowing very much about the subject, and, finally, after a few failures, they arrive at success. No great harm has been done, and

no serious expense incurred. It is a different matter with fruit trees. In the first place, they are expensive; secondly, they will often outlive the planter; and thirdly, he has to wait a few years, even when conditions are most favourable, for a fair return in fruit. The consideration of such points as these ought to make one pause before embarking upon the planting of fruit trees without having gained some knowledge of the subject or sought advice. It used to be said that "He who plants Pears, plants for his heirs," and, with the same degree of truth, a similar statement might be made regarding Apples. Fortunately, it is not wholly true, for much depends upon the kind of trees obtained. If standards or bushes of Apples on the Crab stock, and standards or pyramids of Pears on the Pear stock, are planted, then the old adage may be said to contain a good deal of truth; if, however, bush Apples on the Paradise and pyramid Pears on the Quince stock are obtained, a fair crop of fruits may be expected within two or three years, although the trees will not be at their best until much later. Trees on the Crab and Pear stocks are valuable chiefly for planting in orchards, or where plenty of space is available, while those on the Paradise and Quince are used for planting in cultivated soil of the garden, especially if the garden is of limited extent. Those on the Paradise and Quince form fibrous roots near the surface; consequently smaller bushes are developed, which come quickly into fruit-bearing. The others spend the early years of their lives chiefly in making growth, but they are longer lived, and, once well-established, will last for generations. For the average amateur, bush trees on the dwarfing stocks (as the Paradise and Quince are called) are preferable; they take up comparatively little room, and soon begin to give a satisfactory return.

There are many and various kinds of dwarf Apple and Pear trees. There is the ordinary bush Apple

and pyramid Pear (the latter is distinguished from a bush by the possession of a central stem, and is the form in which the Pear is most conveniently grown); there is the cordon, having one stem, or two or three stems, which may be trained in a perpendicular, vertical or horizontal direction. Further variation is found in those trained in the form of a fan or with the branches disposed in a horizontal direction, in tiers one above the other. Cordons are to be recommended to those who wish to grow as many varieties as possible; they may be placed against a fence or wall, or trellis in the open garden. Trees having their branches trained in horizontal tiers are often put against a trellis in the open, but they may be grown on a wall, in which position fan-trained trees are usually placed. Apples are not commonly planted against a wall, except in cold districts, or in other localities for the purpose of obtaining fine specimens of rich colour. On the other hand, Pears are particularly suitable for walls; the flavour of the fruits is more highly developed from trees in such a position than from those in the open. They will, at least in southern and south midland gardens, thrive perfectly in the open garden either as standards or pyramids.

A proper selection of varieties is of the greatest importance in view of the fact that fruit trees are comparatively slow in coming to maturity. With a few notable exceptions it is doubtful whether it is possible to give a selection that shall be ideal and suited to all districts, because soil and climate exert an influence on fruits. Local varieties, unknown to general cultivation, are grown in certain districts, because, from long experience, it has been found that they are profitable there. Before completing his selection the planter should inquire from local nurserymen or gardeners whether there are varieties of Apples or Pears with a good reputation in the neighbourhood.

Self-fertile and Self-sterile Fruits. — Another aspect of the subject that deserves consideration is that of self-fertile and self-sterile varieties. It is probably known to most amateur fruit growers that if one planted, say, a Victoria Plum, in an isolated position, it would bear fruits freely, whereas if the Greengage were similarly treated it would prove disappointing. This question, though of the greatest importance, has not been the subject of exhaustive experiment, and the available data do not form a complete index to self-fertile and self-sterile fruits. A particularly interesting article dealing with this matter has appeared in THE GARDENER, written over a *nom de plume* by an amateur who has carried out experiments for the purpose of finding out which varieties of fruit are self-fertile and self-sterile, and I am making bold to reproduce it here for the benefit of those who may not have seen it already. It is well worth studying, for it shows at a glance the varieties that are likely to give satisfactory crops when planted alone, and others from which good crops must not be expected unless they are planted in association with their ascertained affinities; in other words, those which enable them to produce good crops.

APPLES

Self-fertile	*Self-sterile*
1 Baumann's Red Reinette	12 Allington Pippin (16), (36), (37)
2 Ecklinville Seedling	13 Annie Elizabeth
3 Golden Spire	14 Bismarck
4 King of Pippins	15 Bramley's Seedling (18), (8)
5 Kerry Pippin	16 Beauty of Bath (12), (18), (21)
6 Lord Grosvenor	17 Byford Wonder
7 Lord Derby	18 Cox's Orange Pippin (7), (10), (12), (15), (16), (29), (30), (32), (34), (35)
8 Newton Wonder	19 Grenadier (7), (28), (31), (33)
9 Pott's Seedling	20 James Grieve (10), (18)
10 Stirling Castle	21 Lane's Prince Albert (7), (10), (16), (19), (25)
11 Washington	22 Lord Hindlip
	23 Mère de Ménage (34)
	24 Northern Greening
	25 The Queen (1)
	26 Worcester Pearmain (18)
	27 Wellington

Used for Cross-pollination

28 Crab
29 Devonshire Quarrenden
30 Duchess' Favourite
31 Early Victoria
32 High Canons
33 Hoary Morning
34 Lady Sudeley
35 Langley Pippin
36 Ribston Pippin
37 Summer Golden Pippin

PEARS

Self-fertile

1 Conference
2 Duchesse d'Angoulême
3 Durondeau
4 Doyenné Boussoch
5 Hacon's Incomparable

Self-sterile

6 Beurré Clairgeau
7 Beurré Diel
8 Catillac (19)
9 Clapp's Favourite
10 Doyenné du Comice (21)
11 Louise Bonne de Jersey
12 Pitmaston Duchess (8), (11), (14)
13 Souvenir du Congrès
14 Williams' Bon Chrêtien (15) (17), (18), (20)

Used for Cross-pollination

15 Beurré Easter
16 Beurré Giffard
17 Duchesse d'Angoulême
18 Fertility
19 Josephine de Malines
20 Le Lectier
21 Winter Nelis

PLUMS

Self-fertile

1 Czar
2 Denniston's Superb
3 Damson
4 Early Favourite (Gisborne's)
5 Early Transparent
6 Early Myrabelle
7 Golden Transparent
8 Kentish Bush
9 Monarch
10 Magnum Bonum Red
11 Magnum Bonum White
12 Oullin's Golden Gage
13 Pershore
14 Prince Engelbert
15 Reine Claude Violette
16 Reine Claude de Bavay
17 Victoria
18 Warwickshire Drooper

Self-sterile

19 Black Diamond
20 Bradley's King of Damsons
21 Coe's Golden Drop (1), (2), (6), (9), (15), (37), (38), (39), (40), (44
22 Coe's Violet
23 Cox's Emperor
24 Curlew
25 Early Greengage
26 Early Orleans
27 Grand Duke
28 Histon Gage
29 Imperatrice
30 Jefferson (5), (9), (39), (40)
31 Kirke's Blue
32 Late Orleans
33 Late Transparent (5)
34 Mallard
35 Old Greengage (1), (9), (37), (39)
36 President
37 Pond's Seedling (1)
38 Prune d'Agen
39 Rivers' Early Prolific (1), (9), (26)
40 Reine Claude d'Altham (21), (22), (30)
41 Sultan
42 Stint
43 Washington (37)
44 Wyedale

CHERRIES

Self-fertile	*Self-sterile*
1 Florence	8 Ambe Bigarreau (5), (7), (13), (18)
2 Kentish Morello	9 Black Tartarian
3 Late Duke	10 Burg d'Annay
4 Morello	11 Bigarreau Napoléon
5 Napoleon	12 Elton Heart (13), (19)
6 Rundle's	13 Frogmore Bigarreau (7), (8)
7 Turk	14 Knight's Black Eagle (7)
	15 Knight's Early Black (14)
	16 Kentish
	17 May Duke
	18 Old Black Heart (4)
	19 Rivers' Early Black (8)
	20 White Heart

"In the above lists, which are lamentably incomplete, the numbers within brackets indicate the serial numbers of the ascertained affinities. Among the self-sterile kinds are included some which are so feebly fertile as to be practically sterile. Coe's Golden Drop would appear to be rather a light-o'-love among Plums.

"No universal fertilisers have yet been found. If such there be they will probably be wild fruits such as Crab-apples, Sloes, etc."

Planting Fruit Trees.—It is essential to prepare large holes; they should be 4 or 5 feet across and the soil ought to be stirred to a depth of from 2 to 3 feet. It is a mistake to mix manure with the ground, for the chief difficulty experienced during the first few years is to prevent the trees growing too vigorously. This applies especially to those planted in the garden proper; some manure may be dug in the soil at the bottom of the holes prepared for orchard trees. It is most important that a space 3 or 4 feet wide should be kept clear round trees on grass land; if the grass is allowed to grow right up to the stems, the growth of the trees invariably suffers. The same advice applies to the planting of standard Roses on the lawn; a space clear of grass ought always to be left round the stems. The uppermost roots of dwarf fruit trees need be covered with only 2 or 3 inches of soil. Stakes should be used for the purpose of keeping

TEA AND HYBRID TEA ROSES—HUGO ROLLER, BETTY, MME. LÉON PAIN, AND OTHERS

PAVED PATH AND RISE PERGOLA LEADING FROM HOUSE TO GARDEN

standards firm in the ground. This end ought not to be attained by planting deeply. There is no necessity to describe in detail the actual process of planting; it is obvious that the roots must be spread out properly, bruised and broken ones being cut back, and the soil made firm about them. As to the correct time for planting fruit trees, there is none better than early November; they may be planted until late in March with decreasing prospects of success, at any rate for the first season. It is possible to plant them throughout winter, when the weather is mild, and even as late as the end of March, but the later in the season the work is carried out, the less likely are they to make satisfactory growth the first season. There is no need to protect the roots, except perhaps in cold districts, where a covering of littery manure may be advantageous.

Varieties of Apples.—Many of us if asked for the name of the best flavoured Apple would have no hesitation in choosing Cox's Orange Pippin, though there are some who prefer Ribston Pippin. But individual tastes are strange, and judgment would not be unanimous in favour of these old varieties. There are only two Apples that I personally enjoy—Ribston and Cox's Orange—but as I would rather have a juicy Joséphine de Malines or Doyenné du Comice Pear, I am probably not a good judge of Apples. However, I can give a list of those that are considered to be the best available and are most likely to succeed in amateurs' gardens.

The following are twelve dessert varieties, the name of the month in which they are ready for use being also given: Mr. Gladstone (August), Lady Sudeley (September), Margil (October), King of the Pippins (October), James Grieve (October), St. Edmund's Pippin (October, November), Egremont Russet (October, November), Adam's Pearmain (November, December), Allington Pippin (November to January), Cox's Orange Pippin (November, December), Ribston Pippin (November), and Sturmer

Pippin (March). Of cooking varieties the following form an excellent dozen: Pott's Seedling (August, September), Lord Suffield (August, September), Stirling Castle (September, October), Ecklinville Seedling (September, October), Bismarck (November, December), Blenheim Orange (November, December), Golden Noble (November, December), Lane's Prince Albert (December, January), Sandringham (January, February), Bramley's Seedling (December to March), Newton Wonder (December to April), and Wellington (December to April).

Notes on Pears.—A luscious Pear is probably chief favourite among hardy fruits; it is, I think, preferred by most people to an Apple. Pear trees are often less disappointing than Apple trees; in an amateur's garden they are less likely to fail under injudicious treatment. You may prune a Pear tree by rule of thumb, and it will continue to yield good crops, whereas an Apple tree needs more intelligent management. The Pear bears abundantly from spurs, short stubby growths that form at intervals throughout the full length of the branches. I have seen old Pear trees the branches of which were covered from tip to base with fruit spurs, the result of the simple orthodox practice of summer and winter pruning. There is a bewildering choice of varieties, and almost every grower has his favourites. Of those to be recommended generally the following are chief; the month (or months) in which they are in season is given: Jargonelle (August), Williams' Bon Chrêtien (September), Fondante d'Automne (September), Conference—perhaps the most satisfactory of all varieties for an amateur—(October), Louise Bonne of Jersey (October), Thompson's—considered by many to be the most delicious Pear—(October), Marie Louise (October, November), Beurré Superfin (October, November), Beurré Hardy (October, November), Beurré Diel (November), Doyenn du Comice (November), Winter Nelis (December), Charles Ernest (November), Joséphine de Malines (December, January).

High Summer in the Garden

Concerning Plums.—My experience of Plums, if one excepts some of the prolific cooking varieties, is that they are somewhat erratic in fruit-bearing. They crop better when planted together than when isolated, and the reader should study the lists on page 76 to ascertain which are the self-fertile varieties. They may be grown as standards or pyramids, or on a wall facing west or east; in cold gardens the shelter of a wall is necessary. Planting firmly in soil that has not been manured, and in which lime-rubble has been mixed freely, is an important consideration, for young trees often make such vigorous growth as to become unfruitful, and the malady known as "gumming" may then attack the branches. It is advisable to lift all young fruit trees each autumn, for the first few years after planting, if they form thick, unfruitful shoots; otherwise they soon become unmanageable, and it is almost hopeless, or at least takes a long time, to bring them back to a fruitful condition. The uppermost roots ought not to be covered with more than 2 or 3 inches of soil. A few of the most satisfactory dessert Plums are Kirke's (purple), Jefferson (greenish-yellow), Reine Claude de Bavay (greenish), Transparent Gage (orange yellow and green), Coe's Golden Drop (yellow, dotted with red), Oullin's Golden Gage (yellow), Green Gage (greenish) and Bryanston Gage (greenish-yellow). All these are well worth planting against a wall, but especially Coe's Golden Drop (of which the fruits should be allowed to hang until they are slightly shrivelled), Jefferson, Transparent Gage, Reine Claude de Bavay and Green Gage. Kirke's is perhaps the best of all for the amateur's garden. Among cooking Plums good sorts are Victoria (red, an immense cropper), The Czar (dark purple), Rivers' Early Prolific (purplish), Pond's Seedling (pale red), Monarch (purple) and President (dark purple).

Peach and Nectarine.—These delicious fruits need a south or west wall, even in southern counties, and

are not suitable for planting in northern counties. They are among the easiest of fruits to grow if the trees are carefully attended to for a few years after planting and the method of pruning is understood. They need well-drained loamy soil containing lime-rubble, but no manure. In rich ground they, too, are apt to make vigorous growth during the first few years following planting, and the only remedy is to lift the trees each autumn and shorten any thick roots that may have formed. A few excellent varieties of Peach for out-of-door planting are Stirling Castle, Royal George, Violette Hâtive, Alexandra Noblesse, Hale's Early and Bellegarde. Delicious Nectarines are Elruge, Early Rivers, Pineapple and Pitmaston Orange.

Cherries are satisfactory fruits to grow, providing they can be protected from birds; if not, then it is useless to plant them. They are most easily protected when grown against a wall, and as they will thrive excellently on a wall with east or north aspect, there are doubtless many positions in gardens which they might fill to advantage. Not only the Morello, but the Sweet Cherries are suitable for planting in these aspects. Fan-trained trees against a wall usually bear splendid crops, and they do not need a great deal of attention beyond summer and winter pruning. It is essential to keep down aphis in early summer; this pest attacks the tips of young shoots and, if not destroyed, will soon ruin them. Cherries, like all stone fruits, appreciate lime-rubble in the soil; this must be made very firm about the roots, and manure ought not to be added. A few of the best varieties are Black Tartarian, Black Eagle, Early Rivers and Knight's Early Black (all dark Cherries); May Duke (red, a splendid cropper), Frogmore Early Bigarreau (red and yellow), Governor Wood (red and yellow), The Noble (dark red), Kentish Bigarreau (red and yellow) and Florence (red and yellow, late).

Raspberry.—No fruit is more easily grown than the Raspberry; all one has to do to keep the plants healthy and free bearing is to plant in well-prepared soil, mulch the surface in summer to keep the roots cool, and, in autumn, cut out the canes which have borne fruit, tying in those which have developed during summer; they, of course, will bear the following year's crop. These remarks apply to the ordinary summer fruiting Raspberries. Autumn fruiting kinds need different treatment, for they bear fruits on the current year's stems, and are therefore hard pruned—cut to within a few inches of the ground in February. Of summer Raspberries good red sorts are Superlative and Norwich Wonder; attractive yellow varieties are The Guinea and White Antwerp. Of autumn Raspberries the chief are Red and Yellow Four Seasons.

Gooseberry and Red and White Currants.—The first-named fruit thrives in ordinary garden soil, and is of the easiest cultivation. The only drawback, from the amateur's point of view, is its liability to attack by caterpillars, which play sad havoc with the leaves if allowed to spread. Methods of coping with this pest are, to remove 2 or 3 inches of the surface soil in winter, adding fresh material; to dust the bushes with lime and soot in early summer, when they are moist; to destroy as many caterpillars as possible by handpicking; to spray with Paris green or arsenate of lead—poisonous compounds which must not be used within six weeks of gathering the fruit. I feel sure that amateurs would derive most satisfaction from Gooseberries and Red and White Currants by growing them as cordons, with one, two or three branches each. A large number can be accommodated in a small space; they are easily and conveniently pruned and attended to; the gathering of the fruit is easy, and they bear splendid crops. Cordons may be planted against a north or east wall, or a wire trellis alongside the garden walk, wherever there happens

to be room for them. In time amateurs will regard cordons of Gooseberries and Red and White Currants as the ideal form in which to grow these fruits. A few of the finest Gooseberries are (of red sorts) Ironmonger, Keen's Seedling and Warrington; (of green sorts) Langley Gage and Greengage; (of yellow sorts) Yellow Sulphur and Champagne Yellow; (of white sorts) Whitesmith. All these bear comparatively small fruits. Those who wish to grow giant Gooseberries should choose from Crown Bob, Lancashire Lad, Whinham's Industry and Speedwell (all red sorts); Careless and Shiner (white); Plunder, Stockwell and Thumper (green); Langley Beauty, Ringer, Leveller and Keepsake (yellow). Of Red Currants, Raby Castle and Fay's Prolific, and of White Currants, White Dutch and White Transparent are satisfactory sorts.

Black Currant.—This accommodating fruit will thrive in a partially shaded spot; it gives no difficulty if one remembers to cut out the old shoots in autumn, to make room for those of the current year's growth, and if one is lucky enough to keep the bushes free from the Black Currant Mite, or Big Bud, a minute insect pest that attacks the buds, causing them to become enlarged and useless. When ordering Black Currants it is wise to make inquiries as to whether the bushes are free from Big Bud, for it is all important to start with healthy bushes. Boskoop Giant is a favourite variety, though the old Black Naples, which bears smaller berries, is quite good also.

Canker in Fruit Trees.—Canker is one of the most embarrassing diseases with which the fruit grower has to contend; there is little hope for a tree that is badly attacked. Some varieties are especially prone to develop this malady, particularly when growing on heavy land, and it is as well to know the names, if only to avoid planting them on soil of this nature. Ribston Pippin and Cox's Orange Pippin are unfortunately among them;

if it is felt that these are indispensable, they ought to be given a warm and well-drained position. Lord Suffield, Warner's King, Cellini Pippin and Lord Derby, cooking Apples, are others liable to suffer from canker.

As to remedial measures, all one can do is to cut off small diseased branches, and cankered portions from older branches, and subsequently to apply a dressing of gas tar. Unless an affected tree is attended to in this way, insect pests, and especially American Blight, infest the decayed parts.

Root-Pruning Fruit Trees.—Young fruit trees are liable to make vigorous growth, which, if not checked, militates against the production of fruit. The remedy is to lift and root-prune them. Root-pruning is drastic treatment, but it seems the only thing to do when growth is excessive and fruits are conspicuous by their absence. It is accomplished by digging a trench some distance from the tree and cutting back all thick roots that are found; search should also be made for similar roots that descend abruptly, by forking away the soil beneath the tree. Offending roots having been shortened, the soil is filled in again and made firm. In dealing with young trees the purpose is often fulfilled by merely lifting them each autumn for the first two or three years, and replanting nearer the surface. Root-pruning may easily be overdone, and especially with older trees. I have known fifteen-year-old Apple trees to be so severely checked by this practice that they were moribund for several seasons afterwards. The distance from the stem at which the trench is opened varies according to the age of the tree; it should not be closer than 3 feet, even in the case of young trees. In dealing with old trees the roots on one side only are cut back the first season, those on the opposite side being pruned the following autumn; moreover, the trench should be some 6 feet away from the stem.

Maggoty Apples and Pears are usually numerous owing to the ravages of the Codlin moth. The chief measure of precaution at this season is to gather and burn such fruits as are not fit for use, thus destroying the grubs. It is wise also to remove a few inches of the surface soil in autumn, replacing with fresh material, and to place bands of hay round the stems to prevent the larvae ascending the trees, which they do for the purpose of hibernating in cracks and crevices of the bark. In December the hay bands are taken off and burnt. The way to get rid of this pest is to spray the trees with arsenate of lead solution as soon as the flowers have fallen in spring. It is necessary that the spray be so directed that it falls on the "eye" of the embryo fruit, for it is there that the grub finds entrance; once inside, it works its way down the centre, and emerges at the side of the fruit.

Fruit Trees Under Glass. — Peaches, Nectarines and Vines grown under glass are important crops, and more than ordinary care is needed to keep them in a healthy and fruitful condition. Apart from errors in ventilation, and in regulating the temperature, the commonest cause of failure is due to an unsuitable border. Such complaints as the fall of buds from Peach and Nectarine trees or their sparse blossoming, the failure of Grapes to set, the shrivelling of the stalks of the berries—all may be traced to the fact that the roots are in unsuitable soil. In preparing to plant fruit trees under glass most amateurs fall into the error of making too large a border. A considerable mass of soil not well filled with roots soon becomes sour, especially if water is applied injudiciously.

A border of strictly limited extent is less likely to deteriorate. Too great care can scarcely be taken in its formation; it may either be out of doors or under glass. The latter is preferable, since the soil will be warmer. A suitable size for a border for either Peaches

or Vines is 3 feet deep and 4 feet wide. There should be some 9 inches of broken bricks at the bottom for drainage, and upon these a layer of turves, placed grass side downwards. The remaining space is filled with a prepared compost. Turves, each of which is chopped with a spade into about six pieces, should form the chief ingredient; a free sprinkling of lime-rubble and bone manure in the form of ½-inch bones is added and thoroughly mixed in. As the border is made up the soil ought to be trodden firmly. Planting should not take place for a week or two afterwards; by that time the soil will have settled almost to its normal level. As the fruit trees develop it becomes necessary to add to the border; an extra 2 feet width of soil every two years will probably be found sufficient. The outer edge of the border consists of a wall of turf, with which the soil is enclosed.

This advice is, I admit, a counsel of perfection, but when one realises that under fair treatment Peaches and Vines will live and bear good crops for half a lifetime the trouble is scarcely too great. Fruit trees under glass benefit at this season if the surface soil to the depth of several inches is removed, and replaced with fresh, turfy soil with which a little bone manure is mixed. Now also is the time to attend to those that have been failures. Not only should the surface soil be taken off, but a trench ought to be dug as far away from the tree stems as possible to enable one to fork away the soil until a mass of roots is exposed. The old soil must be removed, and a practically new border formed in the manner previously indicated. It is a laborious process, yet the only one that will bring any lasting benefit to the trees. All thick, fibreless roots should be shortened and relaid within the upper 12 inches of soil. Lime and mortar rubble is excellent material to mix with the soil in preparing a border for stone-fruit trees.

Cleansing Fruit Trees under Glass.—Winter is the season when Vines and other fruit trees under glass can be cleansed most effectually. They should be untied from the trellis to which they are trained, and then pruned. In dealing with Peaches and Nectarines, old shoots—that have produced fruits—are cut out to make way for those of the previous summer's growth. These will bear the finest fruits next year. While the trees are detached from the trellis the opportunity should be taken to have the trellis and woodwork scrubbed with hot soft-soapy water, with which a little paraffin is mixed.

All loose bark is scraped off the Vines, and, if that troublesome white insect called mealy bug is seen, it should be killed by the use of a brush dipped in methylated spirit. Gishurst Compound is an excellent insecticide to use on Peach and Nectarine trees and Vines, though in applying it care is necessary to see that the buds are not damaged or rubbed off, as may easily be done by a careless worker. Some growers paint the Vines with a mixture of clay and gas tar in solution, using ½ a gallon of clay, made into paste with water, and adding ½ a pint of gas tar. This is brushed into cracks and crevices, and it does undoubtedly get rid of insect pests.

For cleansing an empty greenhouse there is no method at once so simple and so effectual as burning powdered sulphur. The ventilators are tightly closed, a flower-pot containing hot coals is placed on the floor, and a handful of sulphur is sprinkled on them. The fumes are deadly to all forms of life, both vegetable and animal, so that this plan can only be adopted in an empty greenhouse. Needless to say, the gardener, having placed the sulphur on the burning coal, will make haste to leave. The disadvantage of this practice is that the fumes may damage the paint on the woodwork.

November—Autumn Work for Summer

In the Kitchen Garden

The grower of vegetables may rest upon his laurels to a very large extent this month, so far as outdoor work is concerned, though he would be wise to make plans for next year's crops by deciding upon the kinds and varieties to be grown, and by planning out the available space; thus a proper rotation of crops can be practised. The garden fire ought to be kept going merrily, so that all rubbish and dead and decaying leaves can be burnt. Needless to say, vacant land should be thrown up roughly into the form of ridges; frost, wind, snow and rain will then do an immense amount of good, and, at the approach of spring, the soil will crumble to a fine tilth at the touch of fork and spade, and will be in excellent condition for sowing. Ground that is not dug during winter dries slowly in spring, and, consequently, is more difficult to get into proper condition for cropping.

Readers possessing light soil might well make a sowing of Broad Beans for an early gathering, choosing one of the Longpod varieties. Peas, too, may be sown on similar kind of land. On heavy ground it is scarcely wise to attempt either crop now, for many of the seedlings will be lost during winter.

The Globe Artichoke is not a particularly hardy vegetable, and it is wise to afford some protection by placing bracken or straw round the base of the plants, having first cut down the old stems. It is important not to cover the centre or heart of the plant, or decay may set in.

Seakale can now be forced by lifting a few roots (the leaves having been removed) and placing them in boxes of soil in a warm and dark place, such, for example, as beneath the greenhouse stage if no better position offers. It is essential that they be kept in the dark, or the produce will not be of the best quality. Rhubarb may be similarly treated, though darkness is not so necessary in this case.

DECEMBER

Making Plans

DECEMBER is a dull month in the garden out of doors, and the most trying for the amateur unless he possesses a greenhouse. It is difficult to arouse enthusiasm in December; the joys of planting are, or ought to be, over, and little fresh growth is visible above ground. One has to possess one's soul in patience. The measure of present satisfaction is governed largely by the work carried out during the two previous months; if all plants the gardener had set his heart upon growing are safely planted, he knows they are preparing to yield him a full measure of delight in the future. He who has delayed must hasten to make up for lost time and hope for the best. Perhaps the best relaxation for December is to turn to the gardening books and catalogues, which provide much food for reflection and tell many fairy tales. It is fairly safe when you read of a scarlet flower to expect only a red one; to translate orange as yellow, yellow as primrose, mauve as lavender, crimson as dark red, and so on, and to regard with suspicion the flowers of purplish-rose.

Among the Hardy Flowers

Tidying Up.—Some people's gardens are always tidy, others are just the reverse. I am sure that tidiness in gardens is an excellent thing, for where tidiness is practised there also is care taken. It is not wise to be too scrupulous at this season, or more harm than good may follow. One sees the gardener digging

amongst shrubs with a spade, turning over the soil as though he were preparing a strawberry bed. The roots of the shrubs are bound to be damaged by such a process. A garden fork is the proper tool to use when working among shrubs or plants; deep digging is not needed there. How few amateurs place a proper value upon the dead leaves that are swept up at this time of year. If only they were gathered and carefully heaped up or buried in some out of the way corner, there would be an invaluable store of leafmould in a year or so. The leaves of Oak, Elm, and Beech are the most valuable. They may remain exposed to the rain and frost, which hasten decay, though it is necessary to prevent their being blown about by placing hurdles or some other similar protection over them. Watering occasionally with boiling water hastens decay, and a cupful of ammonia in 1 gallon of water forms a valuable solution for killing insect pests. Tidying up is really essential in the Rose garden now, for mild weather often prolongs the growth of the plants, especially of climbers, to such a degree that they become untidy. Shoots formed late in the season are rarely of any value, for they have no chance to ripen; consequently, in spring, they wither away. Such shoots may be shortened considerably now. Ramblers generally make very free growth, and on established plants there is rarely room both for old and young stems; the former must of course give way to the latter, and be cut out, the fresh ones being tied in to replace them. It is a good plan to shorten all long shoots, even on bush Roses, otherwise, during high winds, they are liable to sway and the plants become loose in the soil. As much as one-third may be cut off, unless, of course, the intention is to peg down the shoots in spring: then they must be tied in some way to prevent their being blown about.

Cleansing Rose Bushes.—The present is an excellent time to make an attempt to cleanse Rose bushes, so that

next year they may be comparatively free from harmful pests and diseases. The most troublesome disease, with the possible exception of mildew, is black spot. This forms blackish patches on the leaves and spreads alarmingly ; it is destructive because it causes the leaves to fall prematurely. Now that the Roses are dormant one can take stronger measures than are possible when the plants are in leaf, for the stems are not likely to be injured. Bushes and standards which have suffered should be sprayed late in December, and again in January, with a solution of sulphate of copper. One oz. of sulphate of copper in 2 gallons of water is the proportion recommended. This is sprayed over the bushes and on the soil immediately around them. Gathering and burning fallen leaves is also an invaluable help towards getting rid of this harmful disease, which, unfortunately, seems to be on the increase.

Protecting Roses. — In gardens in comparatively mild parts of the country, Hybrid Perpetual and Hybrid Tea Roses really need no protection, but in cold districts it is wise to take precautions. The simplest and best protection for bush or dwarf Roses is afforded by heaping the soil over the base of the plants. Care must be taken not to draw too much soil away from the roots, otherwise more harm, than good may result. The best way to protect standards is to place a little bracken or straw among the shoots. It is important to remove the covering in good time in spring, otherwise the lower buds, to which one prunes, and upon which the display of blossom depends, may start into growth prematurely. Roses on walls do not need protection except in cold localities ; they are fairly well screened, but it is advisable further to shield tender sorts by means of hay bands or straw or bracken placed among the stems.

Some Winter Shrubs.—Among the comparatively few flowers that one may expect to see out of doors during the winter are those of several shrubs. Com-

monest of all and greatest favourite is the Winter Jessamine (Jasminum nudiflorum); its slender shoots become wreathed in blossom in the depth of winter. This climbing shrub is widely grown, and one would think that every amateur knew how to prune it. Many people still tidy up the Winter Jessamine in autumn, thus cutting off, or shortening, the shoots that, if left alone, would yield the chief flower display. The proper time to prune is in early spring when the flowering season is over; the plant then has the whole season before it in which to form and to mature fresh shoots for next winter's bloom. A less familiar yellow, winter-flowering Jessamine is called primulinum; the flowers are larger than those of nudiflorum, but the plant unfortunately is not very hardy. The Winter Sweet (Chimonanthus fragrans), if planted against a sunny wall, bears brownish-yellow, scented blossoms in mid-winter, and, like yellow Jessamine, is useful for indoor decoration. A few sprays of Winter Sweet fill a room with fragrance. There is a variety of Chimonanthus called grandiflorus; it has larger blooms of deeper yellow than the type, but it really needs to be grown against a wall, while the other may be cultivated as a bush. The fruits of the Winter Sweet often mature when the shrub is grown on a wall. The proper method of pruning is to cut back the side growths to within an inch or so of their base as soon as the flowering season is past; this shrub, like the Jessamine, blooms on the previous summer's shoots.

Winter-flowering Honeysuckle.—Two welcome winter-flowering Honeysuckles are Lonicera fragrantissima and Lonicera Standishi. The former bears white and the latter cream-coloured flowers in January. They may either be grown as bushes, or placed against a wall. They need little, if any, pruning. Everyone knows, though comparatively few seem to grow, the old Mezereon (Daphne Mezereum), a stiff shrub, some 2 feet or more high, which in early spring bears fragrant, reddish

flowers. The variety grandiflora is finer. The Daphne thrives best when not touched by the pruning knife. The Japanese Quince (Cydonia japonica) may be expected to bear its red, apple-blossom-like flowers early, especially in a mild winter. The fruits, which ripen during summer, make an excellent jelly. It may be grown either as a small bush in the open, or trained against a wall. What little pruning is necessary is directed towards stopping the side shoots in summer; the effect of this is to cause blossom buds to form. Though usually necessary with plants on walls, this treatment is rarely required when dealing with those grown as bushes in the open garden.

The finest of the Witch Hazels is Hamamelis mollis. It is in bloom early in the New Year, and bears yellow flowers. It opens earlier than the better-known Hamamelis arborea, with curiously twisted yellow and reddish-brown blossoms. The Witch Hazels need no regular pruning, though it is essential occasionally to cut out the old growths. Garrya elliptica is a curious yet attractive catkin-bearing shrub. The male catkins alone are of decorative value, and as male and female catkins are produced on separate shrubs, it is necessary when purchasing to ensure that the male-flowered plant is supplied. The long catkins of the latter are of yellowish-green colouring, and look especially handsome when depending from the branches trained against a sunny wall.

During Frost and Snow.—The time-honoured advice given by gardening books and papers on work for frosty weather is to wheel manure on vacant ground so that it may be in readiness for digging in when the thaw takes place. Though not, perhaps, a very entertaining exhortation, it is nevertheless sound, for the wheelbarrow runs much more easily on hard than on soft ground. Chief among other items of gardening work to be done during frost is that of pruning, for this may be carried

out in any weather, providing the pruner has no objection. It seems reasonable to suppose that severe frost would do harm to the exposed tissues of the trees, but this does not occur, doubtless because growth is quiescent. It is harmful to defer pruning until signs of growth are apparent, for when the sap flows freely it is liable to exude from the cut surface, and a condition known to gardeners as "bleeding" ensues. Vines are especially liable to bleed when pruning is practised in spring. Though frost may inconvenience out-of-door gardening by restricting work it does an immense amount of good to the land by killing ground pests, keeping trees and plants dormant and "sweetening" the soil. Happy are they whose vacant ground was ridged, or dug and left rough, so that as great a surface as possible is exposed. The frost breaks up the clods and lumps and reduces them to such a state that subsequently they crumble at the touch of fork or spade. While severe frost may do much harm to certain plants that are not adequately protected, its action on other plants and some seeds is beneficial. Those of certain alpine plants germinate better after the pots in which they are sown have been exposed to severe weather. Bulbs, too, seem to grow more rapidly during mild weather following frost. The effect is similar to that obtained by the retardation of roots of Lily of the Valley, Lily, etc.; after these have been stored in a low temperature for a time they make remarkably rapid progress when placed in warmth.

Treatment of Frozen Plants. — The treatment of plants that may happen to get frozen is a matter of some interest. The temptation is to thaw them as speedily as possible by syringeing with warm water. However, this is really the wrong thing to do, and will almost certainly result in their loss. The object should be to thaw them gradually. This is accomplished by covering them with mats for a few hours and subse-

quently syringeing with cold water; such treatment needs to be continued until the object is achieved. It is necessary to protect them from sunshine, for if this reaches frozen plants it does much damage. For this reason it is inadvisable to put tender plants, or those that start into growth early, on a border facing east.

Snow is a valuable protective agent in the garden; roots, seeds and small plants are quite safe beneath its mantle providing they are hardy. A heavy fall may do much damage to precious trees and shrubs if the snow is not removed. Conifers, many of which possess horizontally disposed branches, are most liable to suffer, and if the snow is not beaten off, some of the shoots may break beneath its weight, thus ruining the appearance of the tree.

Berried and Fruiting Shrubs.—I have never seen a shrubbery planted solely with trees and shrubs that bear showy fruits, but I can imagine it to be well worth doing for the sake of its attractiveness at this time of the year, to say nothing of the spring display of blossom. Though it may not be practicable to do this, there is no excuse for neglecting altogether those shrubs or small trees distinguished by the possession of brilliant fruits. It is true that the birds will have numbers of them, but some owners of gardens are sufficiently large-hearted to view such depredations with equanimity, if not with pleasure. Some of the most striking of ornamental fruiting trees belong to the genus Pyrus, which of course counts the Apple and Pear among its numbers. Of Crabs, probably the showiest are John Downie, the Dartmouth and the Siberian. The last named has scarlet fruits, and those of John Downie are red and yellow; both are produced freely. The Dartmouth bears larger fruits of purplish and yellow shades. Pyrus prunifolia having red, and Pyrus ringo, with yellow fruits, together with Pyrus Aucuparia (Mountain Ash) are others of value for the purpose in view. The Rocksprays or Cotoneasters, too, are most

attractive. Cotoneaster Simonsii and frigida form big bushes, while horizontalis and microphylla are two beautiful low-growing shrubs ; all have berries of some shade of red. Among the various Thorns or Crataegus, perhaps the best known is Pyracantha, commonly called the Firethorn. This shrub is a familiar sight on house walls, where, in winter, its red fruits make a brilliant display. The fruits of the variety Lelandi are even brighter in colour. It seems to be necessary to plant this Crataegus against a sunny wall to ensure a full crop of fruits ; one rarely finds it successful in the shade, for there the flowers fail to "set" satisfactorily. The Cockspur Thorn (Crataegus crus-galli) bears handsome, dark-red fruits, while those of Crataegus mollis are also showy. Then there is the yellow-fruited Thorn, so rarely grown in gardens ; its botanical name is oxyacanthoides fructu-luteo. Finally worth inclusion is Crataegus coccinea, having large, bright red fruits. Among the Barberries, special reference should be made to Berberis vulgaris, with scarlet fruits.

The Sea Buckthorn.—The Sea Buckthorn (Hippophaë rhamnoides) is an especially attractive shrub or small tree, clothed with grey leaves, and at this time of the year bearing a profusion of orange-coloured berries. One has to bear in mind that the flowers of this shrub are unisexual, thus it is necessary to place near one another plants bearing each kind of blossom. The Pernettyas are delightful low-growing shrubs that bear pretty, variously coloured berries very freely. There are numerous varieties having fruits of different shades of colour, ranging from white through pink to rose and red. The two Gaultherias, procumbens and Shallon, are most useful shrubs, for they are quite happy under the shade of large trees. They are evergreen ; the former, a creeping shrub, has red berries ; the latter, growing some 2 or 3 feet high, bears purple fruits. All the shrubs named in this note are of quite easy cultivation in ordinary loamy soil. The

Sea Buckthorn is, as one might imagine from its popular name, a seaside shrub, and it is perhaps happiest in moist ground by the waterside, but the proximity of water is not essential to its welfare.

Heather and Moonlight Bramble.—No reference to winter shrubs would be complete without mention of some of the Heaths, notably Erica carnea and Erica mediterranea hybrida. The latter is often in bloom throughout the winter and early spring; it forms a bush some 15 inches high and bears reddish flowers. Erica carnea blossoms most freely of all, it grows only some 6 or 8 inches high, but throughout many weeks in early spring it is a mass of pale reddish blossom. Some charming effects may be obtained by planting early bulbs among it—such, for instance, as Anemone, Scilla, Glory of the Snow, and Daffodil. Heaths need no pruning as this term is commonly understood, though it is advisable to cut off the old flower heads when the blossoms have faded. Among non-flowering shrubs that produce a striking effect in the depth of winter, none is more remarkable than the Moonlight Bramble (Rubus biflorus). This produces vigorous shoots some 6 or 8 feet high, that are white as though they had been whitewashed. Having seen a group of this bizarre shrub in bright moonlight, one can readily understand and sympathise with the choice of its popular name. Some of the Dogwoods and Willows are very beautiful in the winter landscape, particularly Cornus alba and Salix vitellina. The young stems are brilliantly coloured, and to obtain the finest effects it is necessary to cut down the plants each spring to force the development of fresh shoots.

Items of Winter Work.—Every possessor of a garden has realised how, after a few sunny days in early spring trees and shrubs and plants seem to start rapidly into growth, and how so many tasks appear to need carrying out at once. Now is the time to take steps to prevent such a contingency. Dead and useless shoots and old

stems may be cut from old rambler Roses, and insecure posts and trellises ought to be made firm, or replaced by new ones, the bases of the latter being tarred or creosoted before use. Turf may be laid while the weather is mild, and, if the ground is not too wet, lawns ought to be rolled frequently. The name of many a plant has been lost because no label was available at the time of planting, and, as unpainted ones are useless, it is wise to take time by the forelock and have some prepared. Owing to the extraordinary multiplication of names of flowers, or varieties of flowers, that has occurred within recent years, the use of inconspicuous labels is essential. Various kinds of labels are obtainable, yet even now there is nothing much more satisfactory, for low-growing plants, than the 6-inch white painted, wooden label, on which the name remains legible for a long time. But one may purchase metal labels, on which any given name is embossed, or those of zinc. For shrubs or trees the metal labels are most suitable, since they are practically indestructible.

The pruning of certain shrubs may well be carried out before the garden wakes fully from its sleep and other work makes heavy demands on the time of the gardener. Many shrubs need no regular pruning—such, for example, as the vigorous kinds of Mock Orange (Philadelphus), many of the Barberries, Azalea, Rhododendron, and Flowering Currant—but even in these cases dead and weak branches ought to be removed, and the present is a suitable time to attend to them. Shrubs that should be pruned in early spring comprise the Jackmani, lanuginosa and viticella Clematises, the white summer Jessamine, the red- and yellow-stemmed Willows, the red-stemmed Dogwood (Cornus sibirica), the white-stemmed Brambles, the golden-leaved Elder and Hydrangea paniculata. Among shrubs that must not be pruned until they have blossomed are the yellow winter Jessamine, Forsythia, and the spring-flowering Spiraeas.

Wireworm.—Wireworm is one of the most troublesome ground pests the gardener has to deal with. It is destructive to Carnations, Wallflowers, Pinks, Violas and Pansies, many vegetables, particularly root crops, and numerous other plants. The grubs bore into the stem just below the ground level, and are easily recognised by their bright yellow colouring and by the hard wire-like character of their skins. They are the grubs of various skipjack, or click beetles, so called because they have the power of leaping; as this is done a clicking noise is made. Wireworms are commonly caught by means of traps placed 1 or 2 inches beneath the surface; all sorts of things have been recommended as likely baits to attract them—sliced Potatoes, Carrots, Turnips, Lettuce leaves, etc., but it is doubtful if anything is so efficacious as rape cake, of which they are very fond. Each of the baits ought to be examined daily, and for the purpose of its easy location a piece of stick is used, one end inserted in the soil, the other end remaining above ground. Many may be got rid of if a look out is kept when the ground is dug. Throwing up the soil roughly in winter, thus exposing a greater surface, is also advisable, for birds are then likely to find many of them. In spring, some weeks in advance of sowing or planting, common salt may be used at the rate of 2 oz. per square yard, while nitrate of soda is also distasteful to them. Various proprietary powders such as Vaporite or Kilogrub are convenient remedies. Fresh turf is often infested with these destructive grubs, and careful search should be made for them before it is used.

In the Greenhouse

The warm greenhouse is gay now with winter-flowering Begonias, Zonal Pelargoniums or Geraniums, Perpetual-flowering Carnations, Freesias, Roman Hyacinths, Primulas, Chrysanthemums and Paper White

A WINTER-FLOWERING SHRUB (GARRYA ELLIPTICA)

CLIMBING ROSES THALIA, RÉNÉ ANDRÉ, AND ALBERIC BARBIER

Narcissi, to mention a few of the most important of seasonable flowers. The way to have them bright throughout as long a season as possible is to keep the atmosphere dry, to admit a little air every day whenever the weather allows of this being done, and to give water to the roots only when the soil is fairly dry. It is said that if a little ammonia is placed in a bowl of water in the greenhouse, the flowers suffer no ill effects from fog, and all whose gardening is carried on within the area of smoky fogs know how liable they are to be spoilt. The Zonal Geraniums, among the most brilliant of winter flowers, are quite easy to grow from cuttings taken in March. They, together with the Perpetual-flowering Carnations, need only a minimum temperature of 55°. These two groups of flowers offer remarkable variety of colouring, and no warm greenhouse need be dull at this season, especially if a few early bulbs were potted in September. The yellow-flowered Primula floribunda, its relative Primula kewensis, and the Star-flowered Chinese Primulas are delightfully easy to grow from seed sown in spring if one has a cool frame in which to keep them during summer.

It is time to put in a few cuttings of Perpetual Carnations if one wishes to have flowers next autumn; plants for spring-blooming are grown from cuttings inserted in early spring. They form roots best in a shallow box, filled with silver sand, covered with glass and placed over the hot-water pipes. So far as concerns next winter's display of the other flowers named, it is not yet time to make preparations; the reader may enjoy them to the full, undisturbed by the gardening bogy of "looking forward." Chrysanthemums are, however, an exception, and if it is desired to grow large blooms, or form specimen plants, cuttings should be taken as they become ready. Some of the old plants, the stems of which have been cut down, have a number

of young shoots at the base. If these are taken off just below the soil level, inserted singly in small pots filled with sandy soil, and placed beneath a handlight in the greenhouse, they will form roots without difficulty. Care should be taken to wipe the moisture from inside the glass each morning, and to keep the soil only slightly moist.

I often wonder why more people do not grow specimen Chrysanthemums, those big bushes bearing dozens, even scores, of blooms; they are very handsome and really not difficult. It is important to make an early start with the cuttings, and now is the time; then they will have a long season in which to form the numerous stems required to make a satisfactory specimen. The Chrysanthemum is an accommodating plant, and innumerable stems may be created by continuing to remove the points of existing ones. The earlier the cuttings are put in, the greater the number of stems it is possible to obtain. A few years ago remarkable specimen Chrysanthemums were to be seen at exhibitions, plants that were grown from year to year and produced hundreds of blooms. One does not often see them now.

Plants in a frame, such as Cineraria, Primula, Calceolaria, need very careful watering, otherwise the leaves will "damp off." A temperature of from 45° to 50° is high enough for these. Those who have not yet potted bulbs for spring flowering may still do so with very fair prospects of success. So accommodating are ordinary kinds that they may be potted and placed on the stage of the cold greenhouse and allowed to form roots there, instead of being plunged in ashes. The latter method is no doubt the best, but it is perhaps worth while pointing out an alternative and less exacting way to those who are content with ordinarily good flowers. Lilies that have been potted within the last few weeks, or that may be potted now, need scarcely any water during the winter months, providing they are, as they ought to be, in a frame or greenhouse, safe from frost.

Roses from Seed.—New Roses are commonly obtained from seed saved from flowers that were cross-fertilised by artificial means. For this purpose Roses are usually grown in the greenhouse; the flowers then open early and the seeds become thoroughly ripened. Seeds from fruits that have ripened on Roses out of doors are not so reliable as those obtained from plants grown under glass; nevertheless it is possible to raise seedlings from some of them, and amateurs will find the work full of interest. Seedlings, even from the same pod of seed, show extraordinary variation, and there is always the chance that one may obtain a really good new Rose. Rose growing from seed is not very easy. The pods are gathered, each with a piece of stalk attached, and are at once placed in pots of moist sand, the stalk being embedded to its full depth. Small flower-pots are prepared by being drained with a few crocks covered with moss, and filled with sifted sandy loam. The pods are broken and the seeds are sown at once, about ½ an inch deep; the soil is moistened by placing the pots in a bowl of water and keeping them there until the moisture rises to the surface. The seeds are covered with glass, placed in a greenhouse temperature of 45°, and are moistened when necessary. As the seedlings show through the soil, the glass covering is removed and they are placed in a light position in the greenhouse. Even after the seedlings have appeared the grower is not out of the wood, for when about 2 inches high the little plants have an unfortunate way of collapsing. The conditions most likely to ensure their steady progress are a regular night temperature of from 50° to 55°, very careful watering, and ventilating in such a way that draughts are avoided.

Pruning the Vine.—It is easier to grow Grapes in a vinery devoted solely to their cultivation than to attempt them in a greenhouse that has to accommodate half-hardy plants during winter. The latter

may be accomplished with greater or less success, of which the degree depends chiefly upon the temperature maintained. If the Vine is to carry good crops of well-ripened Grapes it must have perfect rest in winter ; this can be given only by exposing the Vines to air after the leaves have fallen. The Vine is not tender; it will grow out of doors in this country, though the weather conditions are rarely sufficiently favourable to enable the fruit to ripen. When grown under glass it should have all the fresh air possible throughout winter, and the ventilators should never be closed except during severe frost. When the greenhouse contains a collection of half-hardy plants a compromise must be made, and one has to arrange for a temperature that will protect the plants while not exciting the Vine into growth. Few amateurs seem to prune their Vines properly; it is not at all uncommon to see the trellis crowded with long, weakly side shoots that have been scarcely shortened from one year to another. Such Vines quickly deteriorate; though they may continue to bear fruit for years, the berries are small and rarely colour properly. The bunches of Grapes are produced by the fresh green growths of summer; and these are vigorous enough to bear good bunches only when the Vines are severely pruned in winter. The side shoots, or laterals as they are called, of the past summer's growth—those that bore the last crop of Grapes—should be cut back to within two buds of their base; perhaps only half an inch of each shoot may be left. If both buds start into growth in spring one should be rubbed off as soon as it is possible to distinguish which of them bears the embryo bunch; this can be done when the little shoot is 1 or 2 inches long. If the laterals are hard pruned in this way each winter, they make progress only at the rate of half an inch or an inch each year, and the pruned Vine appears as merely a thick stem, with protuberances or spurs here and there, throughout its full length.

December—Making Plans

In the Fruit Garden

Cleansing Fruit Trees.—The simplest method of cleansing fruit trees is by spraying with caustic wash during the winter months. This not only gets rid of moss and lichen, but has the effect also of lessening the number of insect pests. Those who do not care to go to the trouble of mixing a wash are advised to obtain a preparation called Sodalin, which may be had from nurserymen. In using a caustic wash it is necessary to wear gloves and old clothes, and to take care that none of the liquid falls on the face. The best method of application is by means of a proper sprayer; this is, in fact, the only practicable way of dealing with large trees. Small fruit bushes may be treated with a syringe having a nozzle that throws out a fine spray. It is important that the liquid be made to reach all parts of the tree, every nook and crevice, so that disease germs and insect pests may be destroyed. The use of caustic wash is especially beneficial in the case of old orchards, where the fruit trees have been neglected for years. All foreign matter is cleared off, and after the spraying is finished the stems and branches look as though they had been polished. Spraying should be done in December and again in January. An effective caustic wash is prepared by placing 1 lb. of caustic soda in water and 1 lb. of potash in water, separately, and leaving both until dissolved. Then they are mixed together and $\frac{3}{4}$ lb. of treacle is added. After the mixture has been thoroughly stirred, enough water is added to make 10 gallons of liquid. It is not wise to spray fruit trees with caustic wash more than once every three or four years; the practice of spraying annually with this wash has been found to be harmful.

Pruning Fruit Trees.—The work of chief importance among fruit trees is that of pruning; this may be carried out at any time from the middle of December until the end of January. It must be admitted that this is

rather a complex subject, if one considers it in all its bearings. It is often said that both professional and amateur growers make mistakes in pruning, though their methods are usually quite different. The former frequently prunes too severely, while the latter rarely prunes sufficiently hard. All fruit trees cannot be pruned by rule of thumb, because the growth varies according to the stock upon which they are budded, and the soil and position in which they are grown, while individual varieties differ in their behaviour under similar conditions. I believe that difficulties of pruning are often due to incorrect treatment of the trees during the first few years of their life. If amateurs would take note of those that show a tendency to make excessively strong shoots during the first two or three years after planting, and lift them in autumn—then cutting back strong roots and replanting nearer the surface—I feel sure they would have done much to establish fruitful trees. Fruit trees that make shoots of moderate growth only, bear the best crops of fruit. The Apple is obtainable either upon the Crab or upon the Paradise stock. Standards and those intended for orchard planting are usually budded upon the Crab, and bushes for planting in cultivated soil are on the Paradise stock. The former will develop into bigger trees, but the latter will bear satisfactory crops of fruit first, and for the amateur's garden are therefore to be recommended. It is not much use planting Apples "worked" on the Crab stock in one's garden, and then to attempt by severe root and branch pruning to curb their naturally vigorous growth, for it will only end in disaster. They must be allowed to grow freely during the first few years, though the shoots must be shortened annually by about one-third until a properly balanced set of branches is obtained. Then, in later years, they will, in suitable conditions, bear good crops of fruit. Apples on the Paradise stock come into good bearing within a few

years of planting, providing excessive growth has been checked by lifting the trees each autumn during the first few seasons.

The pruning of established standards and other forms of Apples on the Crab stock is practically limited to keeping the branches disposed thinly; to shortening the leading growths by about one-third, for the purpose of inducing the buds to break into growth throughout the whole length; and in cutting back side shoots to within two buds of the base. Care should be taken to cut out, not to cut back, shoots that are unlikely to form suitable branches, or if there is not room to allow them to develop as fruit spurs. Unless this is done, sooner or later the trees will become full of small growths which are not only useless in themselves but do harm to the remaining branches by depriving them of their share of light and air.

In dealing with bush trees on the Paradise, or dwarfing stock, as it is called, similar methods are practised—namely, keeping the branches thinly disposed, annually cutting off one-third of the previous summer's growth, and pruning the side shoots hard, to within two buds of the base, to induce the formation of fruit spurs. Some Apples bear fruits freely on the previous summer's shoots as well as on spurs on the older branches, and it is wise, if there is room, to shorten them only slightly instead of cutting them hard.

The pruning of Pears is even simpler than that of Apples, for if summer and winter pruning is carried out systematically fruit spurs form freely throughout the full length of the branches. It is necessary to keep the latter wide apart, say 16 inches at least, so no more than are required must be allowed to develop. Old Pear trees often become full of thin twiggy shoots that never bear a blossom and prevent the full exposure to light and air of the chief branches. They ought all to be cut out; to shorten them merely has the effect of inducing fresh

growth, which makes matters worse than ever. The winter pruning consists simply in cutting back, to within two buds of the base, the side shoots that were shortened in summer, and in cutting off about one-third of the past season's growth at the ends of the branches. This routine work, however, is of little value unless the branches are thinly disposed. The assurance of this is one of the chief articles of faith in pruning fruit trees.

The Plum, like the Apple, bears fruit both on spurs—stunted side growths—and on shoots of the previous summer's growth. Thus, while the orthodox summer and winter pruning is practised, care should also be taken of fresh growths wherever there is room for them without crowding the existing branches. Similar remarks apply to the Sweet Cherries, though fruit spurs form on the branches so freely as a rule that the previous summer's growths may be cut back in the usual way, to two buds. In dealing with Morello Cherries, Peaches and Nectarines a totally different procedure is required; in these cases the shoots that have produced fruit are cut out and the fresh growths of the past summer take their places.

Red and White Currants bear their fruits on spurs, and the method of pruning is the orthodox, namely, to shorten to within one or two buds of the base all side growths. The terminal shoots, those that continue the development of the branches, are shortened by about one-third. Gooseberries fruit freely on spurs and on shoots that formed during the past summer, so when there is room for these they should be allowed to replace older shoots. Branches near the ground ought to be cut off, for when they become laden with fruits the latter are spoilt by soil splashed up during heavy rains. The branches must be at such a distance apart that it is possible to get one's hands between them conveniently for the purpose of gathering the fruits. Cordon Gooseberries and Red and White Currants are quite easily dealt with; it is necessary merely to shorten the side shoots to within

A LITTLE GARDEN POOL MADE WATERTIGHT WITH CEMENT

WOODLAND AND WATER—JAPANESE IRIS IN THE FOREGROUND

THE PERSIAN LILAC (SYRINGA PERSICA)

a bud or two of the base. Black Currants bear the best fruit on the past summer's growths, therefore these are retained to provide the following year's crop, older ones being cut out to make room for them.

The subject of pruning fruit trees is not so complex as it seems. The items of importance are to take steps, by lifting and root pruning, to prevent the trees making excessive growth during the first few years; to shorten the leading branches by one-third each autumn to force all buds to start into growth in spring; to keep the branches thinly disposed; to cut out worthless and superfluous shoots; to shorten the side shoots in summer and further to prune them in winter.

Pruning Newly Planted Fruit Trees.—To prune or not to prune is the problem that confronts the gardener who has planted fruit trees since last October. Some growers advise one course, some another, but the weight of opinion inclines to the practice of postponing the pruning until the second spring. It is argued that if the trees are hard pruned now, the growths that will develop during the coming summer will be of such poor quality as to be practically useless, owing to the fact that the trees have not sufficiently recovered from the disturbance to their roots to make normal growth. Thus they will be at a disadvantage in a year's time compared with those left untouched. The latter will have had time to recuperate, and hard pruning in spring, some fifteen or sixteen months after planting, will force the basal buds into vigorous growth, whereas similar buds on trees pruned a year previously will have produced more or less useless stems.

In the Kitchen Garden

There is not very much to do among the vegetables during this month, especially if the ground is wet. If, however, it should prove comparatively dry, opportunity

ought to be taken to dig all vacant plots, throwing the soil up roughly, or, better still, in the form of ridges, so as to expose it to the weather. Much time will be saved later on if a plan is prepared showing the positions for the various crops and paying due regard to a proper rotation.

Rotation of Crops.—It is common knowledge that vegetable crops thrive best, and are less likely to suffer from attacks of various diseases, if grown on fresh ground as often as possible, and this should be the first aim of the gardener. Vegetables, especially of the Cabbage kind, ought not to be grown on the same ground more than once in four years. Potatoes, providing they have not shown signs of disease, may be planted on the same plot year after year, though they too benefit from a change of ground.

The simplest way of ensuring a correct rotation in a comparatively small garden is to divide it into four sections. The first section, having been dug and manured in winter, should be planted in spring with Peas, Runner Beans, Celery, Leeks, etc., all of which need deep and rich soil. This preparation will ensure that the ground is in excellent condition the following season for root crops—Beetroot, Carrot, Parsnip, etc. No manure should be added for these. Greens of all kinds will occupy the plot the next season, the ground having been dug and manured in autumn or winter. The fourth year this plot may be planted with Potatoes. Having once arranged the rotation for the first division of the ground, it is a simple matter to dispose of the three remaining plots. All one has to do is to plant the second plot with the second year's crops of the first plot, which in this case are Beetroot, Carrot, etc., and follow with the others in rotation. The first crop of the third plot will be greens and the first crop of the fourth plot will be Potatoes. Thus no crop will be grown upon the same soil more often than once in four years.

December—Making Plans

The protection of certain crops ought to receive attention if they have not already been made safe—such, for example, as Globe Artichoke, Celery, Parsley, etc. If Broad Beans were sown last month it is wise to draw the soil up to the seedlings, and the same advice applies to Peas sown out of doors. To protect Globe Artichokes, place straw, leaves or litter round the base of the plants. Scatter bracken or straw litter among Celery, first completing the earthing if this has not been attended to. Tubers of early Potatoes for planting in spring ought to be selected and placed on end in shallow boxes in a light frost-proof place. Parsley may be protected by means of a frame or by placing a rough framework of sticks over the plants and throwing a mat over these in case of sharp frost. It is necessary to look over the stored roots of Carrot, Beetroot, etc., and to remove decaying ones.

JANUARY

The Passing of Winter

IT always seems to me that when the New Year dawns, those who are unhappily not gardeners must envy those who are, if they realise the intense joy and pleasure that the turn of the year and its consequent delightful anticipations bring. I find it difficult to believe that winter has not already passed when New Year's Day comes in. The old year has gone and one has to prepare in earnest, to plot and plan for the flowers and crops of another season. Even if the weather is cold the sun gains daily in power and influence; the spring bulbs begin to peep through the soil; those in pots, even in the cold greenhouse, start into growth; plants and shrubs on sheltered walls show signs of fresh life; the ground begins to dry a little. Everywhere the same tale is told, and the most pessimistic, if he does not believe winter has gone, must realise that spring is coming. How the catalogues roll in by every post; they too bid us look forward not only hopefully, but speedily. Who starts early will achieve the greatest success. It is poor gardening and offers little hope of real satisfaction to delay ordering seeds until spring is here. Those who order first are first served, and it is so much pleasanter to obtain the flowers one has decided to grow than to have the list returned with "sold out" marked against many items. Part of the perennial interest attaching to gardening is due to the fact that one may grow some different flowers every year, for there are so many from which to choose. Those who buy plants in March instead of seeds in January miss much of the delight that centres in flower growing.

Almost any kind may be raised from seed, even such as summer bedding plants, which are commonly grown from cuttings, and perennials, usually increased by division of the clumps. Seeds of hardy plants may be sown in January in a greenhouse in which a minimum temperature of 45° to 50° can be maintained. Early sowing is a great advantage, even in the case of plants that will not bloom until next year, for by this means strong clumps are obtained for permanent planting in autumn; some perennials will bloom in late summer from seed sown now.

Among the Hardy Flowers

Mistletoe. — The Mistletoe (Viscum album), which enjoys wide popularity for the decorative value of its berried shoots and their pleasant associations, is a parasitic shrub, thriving upon various host trees, notably the Apple, Oak, Lime and Poplar. Although, when present in quantity, the Mistletoe may do considerable harm to the trees upon which it grows, one may have a bunch or two in the orchard or garden without prejudice to the welfare of the trees. It is not difficult to establish by means of ripe seeds if these are now rubbed into the cracks of the bark. It is wise to tie a little moss over the seeds to protect them from birds, otherwise no further attention is needed. Growth is slow for two or three years. Only the white-berried kind is seen in this country, but on the Continent red-berried Mistletoe is grown.

The Winter Iris.—Every garden, however small, should find a place for the winter-flowering Algerian Iris (Iris stylosa); its fragrant lavender-blue blossoms open throughout a long season, from late autumn until early spring, and are admirable for cutting, provided they are gathered in the bud stage. It will not accommodate itself to unsuitable conditions, and those who would succeed with its cultivation must be prepared

to take some pains. In most gardens it needs to be planted at the foot of a sunny wall in a well-drained border of light loam soil and sand. Perfect drainage seems essential, and if the soil is at all clayey it should be removed and replaced by a fresh mixture. The most suitable time to plant is as soon as the blossoming season is past; if the work is carried out then the chances are that the Iris will bloom satisfactorily during the following winter. Iris unguicularis is another name for this beautiful winter flower, which is a native of Algeria.

Christmas and Lenten Roses.—Most people find that their Christmas Roses deteriorate after some years in the same place; the flower stems become stunted or are sparsely produced, the blooms are small, and the plants generally lack vigour. These failings indicate that it is time the clumps were taken up, divided, and the best pieces replanted on fresh ground; if on the same site this should be deeply dug and enriched. There is some difference of opinion as to the season at which it is best to transplant Christmas and Lenten Roses; some gardeners carry out the work in March, others in July. Deep, moist soil such as is obtained by thorough cultivation and by mixing decayed manure and leaf-mould with the ground, should be provided. A half-shady position among hardy ferns suits them admirably. The Lenten Roses do not seem to be so generally grown as the Christmas Roses, perhaps for the reason that they do not bloom until later, when flowers are less scarce, yet the best kinds, especially the white and light coloured ones, are very beautiful. They are finer plants than the Christmas Roses, growing more vigorously and flowering more freely as a rule; similar treatment is necessary. The named forms are numerous; a selection ought to include olympicus superbus, white, caucasicus albus, Gertrude Jekyll, white, and roseus punctatus, spotted with rose.

Hardy Primulas.—During recent years some very beautiful hardy Primulas have been introduced, chiefly from Western China, and now this genus is of the greatest value from the gardener's point of view. Fortunately most hardy Primulas are easy to grow from seed, and everyone should give them a trial. If seeds are sown now in the greenhouse or frame, or in pots out of doors in April, the seedlings will have become sturdy little plants by the autumn, and may then be planted out where, during the following and subsequent years, they are to bloom. All those to be named will thrive in a somewhat shaded position, and a compost of loam, leaf soil, and sand is suitable, though for such as denticulata, cashmiriana, and frondosa ordinary loamy soil will do. One of the most distinct of these hardy Primulas is littoniana; the flower clusters towards the top of the stem are reddish at first and finally purple, and the association of these two shades produces a bizarre and striking effect. A packet of mixed seeds of the Japanese Primrose (Primula japonica) will yield flowers in many and various shades of colour, from white to crimson; Primula pulverulenta is a closely allied form distinguished by white, mealy stems; both are remarkably handsome and are well suited to a shady border of loamy or peaty soil. Primula frondosa is a vigorous form of the bird's-eye Primrose (Primula farinosa)—itself not nearly so satisfactory from the cultivator's point of view—that will thrive in moist soil in sunshine or shade; it is a dainty plant with whitish leaves and rose-coloured blooms. Primula Forresti is a vigorous, yellow-blossomed sort. Primula Beesiana, too, is of strong growth, and bears tall, erect racemes of crimson purple flowers. Primula Bulleyana is very fine, a tall, vigorous plant resembling Primula japonica in growth and bearing orange-coloured blooms. Others that present no difficulty to the amateur are rosea, an exquisite Himalayan Primula with intense

rose-coloured blooms, an ideal little plant for a shady, peaty corner; denticulata and its variety cashmiriana, two strong-growing easy sorts having rounded heads of lilac-coloured flowers, and cortusoides, with pretty leaves and bunches of rosy blossom. Primula capitata, mauve, and cockburniana, orange red, are two especially attractive sorts; they are not usually long lived, and therefore best treated as biennials and raised from seed each year.

Lawns soon become thin and patchy if they are not nourished occasionally. The present is an excellent time to apply a light dressing of decayed manure, leaving it on the surface until March. The finer particles will have been washed into the ground by then, and the rougher portion may be raked off. Failing the yard manure, a dressing of bonemeal or wood ashes may be given. Bare patches can only be satisfactorily dealt with by forking up the ground in those places, sowing seed and covering it with sifted soil. It is too early to sow seed, but a dressing of manure will assist considerably in providing a satisfactory "bed" for the grass seeds.

The replanting and rearrangement of flower borders may be carried out at this season, except during frost. Such plants as Michaelmas Daisy, Perennial Sunflower, Phlox, Helenium, and other vigorous kinds, should be taken up, divided and replanted, only the outer portions of large clumps being used again; the inner portions are invariably weak and useless, and should be thrown away.

Seeds to Order.—Seeds of so many lovely flowers are now obtainable, and their raising is in most cases so simple, that there is scarcely any excuse for failure to have a brilliant show of summer bloom. It may be helpful to readers with gardens of moderate size if I mention the chief seeds I have selected to sow for summer blossom. Among hardy annuals I would not

be without the two Calliopsis (or Coreopsis) Drummondi, yellow, and tinctoria, yellow and brown (they are very free flowering and most useful for cutting); Love in a Mist (Nigella Miss Jekyll); Candytuft; some of the annual Chrysanthemums; the brilliant red Flax (Linum grandiflorum rubrum); Clarkia; the lovely rose Mallow (Lavatera rosea); the summer Cypress (Kochia tricophylla); the dwarf white Alyssum; Poppies; Mignonette; the gold and brown Salpiglossis; the charming little Toadflax (Linaria maroccana); the rosy Larkspur; annual Gaillardia; the Jacobaeas, with blossoms in red, rose, and other shades. One can scarcely dispense with any of these. Collinsia bicolor is very showy; so, too, are the Californian Poppy (Eschscholtzia) and the Portulaca for a hot, sunny spot. Of perennials everyone ought to grow Delphinium and Lupin in their many and brilliant shades of colour; Chrysanthemum maximum (the Shasta Daisy); the lavender-coloured Scabious (caucasica); Erigeron speciosus, aurantiacus, and others—all showy and free blooming; the exquisite blue Flax (Linum narbonense); Coreopsis grandiflora, and the Dropmore Anchusa (both usually treated as biennials); Campanulas in many sorts; Oriental Poppies; border Carnations and Pinks; all these and others should be included in the seed order. For the rock garden I am growing various Primulas; the alpine Poppy (Papaver alpinum); Tunica Saxifraga; Œnothera missouriensis (a delightful big-blossomed trailing Evening Primrose); and Erigeron mucronatus (all four of which will bloom the first year); dwarf Campanulas; Linum flavum (the yellow Flax); Edelweiss (which is slow); Rock Rose, or Helianthemum (which is fast once it has got over the baby stage); Silvery Saxifrages (which try one's utmost patience, yet keep one living in hope); Æthionema, or Lebanon Candytuft (of which the most beautiful is the pink-blossomed armenum); and so I might continue. Fair success with those I have men-

tioned will ensure a satisfactory harvest of blossom during the coming summer and promise of further delights next year.

Making a Paved Path.—The advantages of a paved path are many, while the only disadvantage is the high initial cost, and this may be lessened by using bricks instead of stone. A paved path is ideal in a little formal garden, in the Rock or Rose garden, and between borders of hardy flowers. Unlike that of grass, its charm is enhanced when the edging plants spread and creep over the margin, while the neutral tint of the stone associates perfectly with the bright colours of the flowers. In forming a path of this kind, the first essential is to make the stones even, though not necessarily level, and this can be accomplished only by setting them in some suitable material such as sand, sifted ashes, fine soil, or cement. The use of the latter precludes planting between the chinks with low-growing flowers unless spaces are left especially for them, and it is not necessary except when a broad terrace is being laid, where an absolutely level surface is desirable. Care ought to be taken that the edges of some of the stones do not rise above those of others, or the path becomes objectionable and even dangerous. The stones must, of course, be of irregular shape and of varying size, otherwise the path may show a formal design, and thus lose much of its charm. As March is an excellent time for putting out small plants in the chinks, the constructive work may well be undertaken now.

In the Greenhouse

The roots of Dahlia, Gloxinia, Tuberous Begonia, and others stored for the winter, do not always pass through this period satisfactorily, especially in a small greenhouse. A frequent cause of failure is that of placing the pots or boxes containing the roots beneath the green-

THE SATIN FLOWER (SISYRINCHIUM STRIATUM) IN THE MIXED BORDER

LILY OF THE VALLEY RETARDED CROWNS, AS POTTED IN FIBRE

SHOWING GROWTH MADE IN A WEEK IN A WARM ROOM

RETARDED ROOTS IN FULL BLOOM IN 24 DAYS
(They were grown in a pot of fibre in a room)

house staging in such a position that water given to the plants above falls on them; if the pots are placed on their side this trouble is avoided. The roots of Gloxinia and Tuberous Begonia may, towards the end of the month, be taken out of the pots (the old soil being removed) and started into growth again for another season. It is best to place them in shallow boxes filled with leaf-mould, not wholly covering them; the soil is kept fairly moist and the minimum temperature should be about 60°. The old roots of Canna, or Indian Shot, should be divided, the portions being repotted separately. They will form good plants by summer.

On Sowing Seeds.—Most amateurs sow seeds too deeply, with the result that germination is often unsatisfactory. A rough guide may be given by stating that seeds should be sown at a depth equal to twice their diameter. One would not of course carry out this recommendation with mathematical precision, but it may serve to indicate how deeply they ought to be covered. It follows that tiny seeds are not covered at all; those of Candytuft, for example, need but an eighth of an inch or so of soil above them. Warmth, moisture and some air are essential to germination; if seeds are buried too deeply they either decay or remain dormant. Greater care is required in seed sowing under glass than out of doors, for the gardener is responsible for the temperature and the application of moisture, which, out of doors, are largely beyond his control. It is essential to keep the soil uniformly moist, and this is accomplished by immersing the flower-pot or flower-pan to the rim in water for a minute or two, as soon as the surface of the soil looks somewhat dry. The moisture then rises to the surface, wetting the soil through without disturbing the seeds. Covering the seeds with glass and the glass with paper tends to keep the soil moist and so obviates the need for watering frequently.

Old and New Seeds.—The question of the value of old seeds is one that arises at this season. Generally it may be said that new seeds are more reliable than old ones, and for that reason it is not wise wholly to trust to the latter. Some seeds retain their vitality much longer than others, and no one seems to know how long seeds will keep in a sound condition. Doubtless it depends largely upon where and in what manner they have been stored. Most gardeners have had the experience, at some time or another, of digging deeply a plot of ground that has lain undisturbed for years, and have been surprised to find a crop of strange weeds spring up. Some growers prefer old seeds, for example, of Melon, Cucumber and Sweet Pea, and assert that they germinate better than fresh ones, and one has often heard of various seeds which, having been kept over several winters, gave quite a satisfactory crop of seedlings. But equally unsatisfactory reports are given of the results following the use of old seeds, and it is not safe to trust to them altogether. There is, however, no reason why one should not sow any old seeds one happens to possess, for, if they germinate, the plants ought to prove quite satisfactory. If old seeds alone are relied upon, it is quite likely that some will disappoint.

Flowers to Raise from Seed.—In a greenhouse in which the night temperature does not fall below about 60° seeds may be sown of Geranium, Fuchsia, Pentstemon, Perpetual and Border Carnations, Tuberous Begonia, Snapdragon and Hollyhock. The Border Carnations are not likely to blossom this year, but the others will develop into flowering plants by summer and the Perpetual Carnations in winter. Hollyhocks are now treated as annuals by many gardeners, and from seed sown this month in the greenhouse a first-rate display is obtained. Grevillea robusta, know as the Australian Silky Oak, is an attractive and easily grown plant,

suitable for the greenhouse, for the summer garden or for rooms. It is readily raised from seed, which may be sown now. The plants grow several feet high and if carefully watered retain their graceful leaves to the base of the stem. Ornamental-leaved Coleus are raised from seed sown at this season, so too are Lobelia and Freesia. Seed of innumerable rock and border plants is obtainable, and if sown now in a greenhouse temperature of about 50°, a splendid stock of seedlings will be available for permanent planting out of doors in early autumn.

It is not possible within the space at disposal to refer individually to the innumerable hardy flowers which can be raised from seed early in the year, for there are few exceptions. There are some, however, to which special reference may be made. One of the most delightful flowers I have discovered (I say discovered, for I have rarely seen it in other gardens) is an apricot-coloured Poppy called Papaver rupifragum. It is of somewhat spreading growth, and throughout the whole summer continues to produce its exquisite blossoms on slender stalks some 12 to 18 inches high. It will bloom in summer from seed sown now. I grow it on the rockery, where it makes a most delightful show; self-sown seedlings subsequently spring up in all sorts of places and ensure flowers for another year. Or to make assurance doubly sure, one has only to gather a few pods late in summer, sow the seeds in fine soil in a box, and the seedlings come up like Cress. They ought to be transplanted or potted, kept in a cold frame during winter, and planted out in spring. A pretty cream-coloured Snapdragon for the rockery (Antirrhinum asarinum) will bloom in summer from seed sown now, so too will Tunica Saxifraga, a small plant that bears a profusion of pale rose blossom, and Vittadinia triloba (Erigeron mucronatus), or Mexican Daisy, of low growth and producing Daisy-like blossoms for months together. Oriental Poppies, Lupins and Red

Valerian are among the border perennials that blossom well the first summer from seed sown now in warmth.

Dahlias are quite easily grown from seed sown now, and various kinds may be tried, Single, Cactus, Pompon, Decorative, Paeony-flowered, Collarette, etc. The Single, Decorative, Collarette and Paeony-flowered sorts are most satisfactory in the garden, for they yield an abundance of flowers. The seeds of the double varieties will produce a proportion of single flowers, and among the single and semi-double sorts there will be blossoms of faulty and unattractive colouring; but, if good seed is obtained, disappointing flowers will be few. Chrysanthemums come excellently from seed, and the plants produce an astonishing display of blossom in autumn; they may be grown in pots throughout the summer, a method that necessitates much labour in watering, or, in May, they can be planted out of doors, repotting to take place in September. Verbenas are charming plants to grow from seed, and there are now varieties of distinct and pleasing colouring, packets of which can be obtained separately. Pansies and Violas for summer show may be raised from seed now. Especial attention should be directed to Viola cornuta and its variety papilio; they yield a profusion of flowers throughout a long season, providing the spent ones are picked off to prevent the formation of seeds. The blooms have not that rounded form characteristic of the tufted bedding Pansies; they are narrower and more deeply cleft. Petunias are not favourites with every garden lover, yet the plants are useful owing to their long season of bloom, and, if seeds of a good strain are obtained, the colours are very showy.

The Winter Cherry (Solanum capsicastrum) is a bright little plant for the greenhouse or room during winter, when laden with its brilliant orange-red berries. Seeds sown now will provide decorative plants by the end of the year. Those already possessing plants should cut

In a Kentish Rose Garden

back the shoots; when fresh growths are about 2 inches long they are ready to be inserted as cuttings. One of the finest plants for sub-tropical gardening, for which purpose those of handsome foliage are chiefly used, is the Castor Oil plant (Ricinus). This grows 4 or 5 feet high, and has large, finely-formed, bronze-coloured leaves that are most ornamental. Seeds should be sown without delay. Canna, or Indian Shot, though usually increased by division of the roots, is not difficult to raise from seed, providing this is soaked in water for a day or two previous to sowing; the covering is hard, and unless precaution is taken to moisten the seeds thoroughly, germination is likely to be slow. Bottom heat is also advisable, such, for instance, as is provided by placing the boxes of seeds on the hot-water pipes.

Sowing Sweet Peas.—Those who wish to grow the very finest Sweet Peas, having stems 15 to 18 inches long, and not less than three or four blooms on a stem, should sow the seeds within the next week or two. Autumn sowing probably gives the best of all Sweet Peas, but, failing this, late January or early February is the best time to start. The seeds are often sown five in a 5-inch flower-pot, though it is preferable to put one seed in a small pot, for when planting out is practised there is less danger of damaging the roots. A temperature of 50° is sufficient to ensure germination within two or three weeks; some growers chip the outer covering; others soak the seeds in warm water with the object of hastening germination. It does not always follow that because a seed is small it will produce an inferior plant; seeds of the lavender-coloured varieties, for example, are generally small and of shrivelled appearance. Readers not possessing a greenhouse or frame may place the pots containing the seeds under the shelter of a wall; they will be rather later than those sown under glass, though probably as good. While the seedlings are progressing, opportunity should

be taken to prepare the ground, and it must be cultivated really well to secure satisfactory Sweet Peas.

There is probably no flower so disappointing when it fails as the Sweet Pea; the plants have such a miserable, sickly appearance that one longs to pull them up; the blooms are small and the stems so short as to be useless for cutting, and this is essentially a flower for gathering. The soil should be dug not less than 2 feet deep; if 3 feet deep so much the better. The bottom of the trench is the place for decayed manure, which is of great benefit, especially in a dry summer, inasmuch as the roots find both moisture and nourishment in soil thus enriched. In the upper 12 inches bonemeal and soot may be freely sprinkled; yard manure ought not to be within reach of the roots of the seedlings. The latter will be ready for planting out of doors about the second week in April; as soon as they show through the soil they need to be exposed freely to fresh air, so that sturdy little plants may result. Those who grow for exhibition restrict the number of stems on each plant to one, two, or three, according to the vigour of the variety. When about 6 inches high the central stem is pinched off and two or three of the basal shoots are trained as stems.

There are some very beautiful varieties among modern sorts, and the following are an excellent dozen: R. F. Felton, lavender; Maud Holmes, crimson; Clara Curtis, palest yellow or cream; Royal Purple, purple; Hercules, pink; Rosabelle, rose; Doris Usher, cream pink; John Ingman, carmine; Afterglow, reddish-mauve; Edna May Improved, white; Elsie Herbert, white with rose edge; and President, orange red.

Freesia from Seed.—The fragrant Freesia is commonly regarded as a winter flower, and when grown in the usual way, from bulbs potted in July and August, the blooms open from Christmas onwards. But if seeds are sown now the plants will be in flower in August

and September. The proceeding is not a difficult one, providing a greenhouse having a temperature of 55° or 60° is available. The seeds are sown in sifted sandy soil, five or six in a 6-inch pot, or alternatively in a smaller pot to be repotted subsequently. It is best to arrange so that the seedlings are not disturbed much; otherwise they are apt to be checked. For this reason it is preferable to sow the seeds direct in the 6-inch pots in which the plants will bloom. In such a case, however, most careful watering is necessary until the Freesias become well rooted. Probably unskilled growers would do well to sow seeds in smaller pots, and, later on, to place each potful in a larger pot without disturbing the individuals. By varying the time of seed-sowing one may have Freesias in bloom at different seasons of the year.

Greenhouse Primulas.—One of the prettiest of the newer Primulas is that known as malacoides; it is only half hardy, but an admirable little plant for the greenhouse, yielding, as it does, a profusion of pale lilac-coloured blossom on innumerable slender stems. It is now in full blossom, and now is the time to sow seeds. Amateurs having a slightly-heated greenhouse can scarcely fail to be pleased with it; a winter temperature of 50° is suitable. The brilliant golden-yellow Primula Kewensis, invaluable for winter blooming, too, should be sown now, and room might well be found also for Primula floribunda, one of the parents of the Kew Primrose; it is quite a small plant, and one may grow excellent little specimens in 4-inch-wide pots. The small yellow flowers are produced very freely in winter and early spring. The white-leaved Primula verticillata, bearing lemon-yellow blooms, should be sown now to provide flowers early next year. All these may be grown in cold frames or even out of doors during summer, but they must be brought into the greenhouse in early autumn. I have been astonished to find how

hardy the Chinese Primulas are. I have plants blooming in an unheated greenhouse in which several degrees of frost have been registered. Primula seed is small, and should be sown thinly in well-drained pans of sifted soil; it is covered only with a slight sprinkling of sand. A temperature of 50° or 55° is high enough to ensure germination within a few weeks.

Perpetual-flowering Carnations.—These are simply invaluable to amateurs possessing a greenhouse in which a minimum temperature of 50° can be maintained. If seed is sown this month the seedlings will blossom next winter. As with Border Carnations, it is necessary to obtain the best seed, otherwise the flowers will be poor, and it is no more trouble to grow good varieties than indifferent ones. This, too, is the best time to take cuttings to provide plants for next winter and early spring. Although the Perpetual-flowering Carnation is primarily a greenhouse plant, those that have blossomed during winter will continue to do so throughout the summer if planted out of doors in May. The cuttings take root most readily in pots filled with silver sand placed just above the hot-water pipes; the pots must be covered with glass, which ought to be wiped dry at least once every day. When roots have formed each plant is potted separately in a small pot; when it is about 6 inches high the point is pulled out to cause side shoots to form. An excellent selection consists of Winsor, rose; White Perfection, white; R. F. Felton, pink; Duchess of Devonshire, crimson; Enchantress, pink; Mrs. T. M. Crook, spotted with crimson; Rose Doré, salmon red; Mikado, heliotrope; Britannia, red; and Mary Allwood, rose pink.

In the Fruit Garden

The pruning of hardy fruit trees has been explained in the notes dealing with garden work in December, but

may be carried out at any convenient time between the third week of December and the end of January. It is not wise to defer pruning later than that, except in the case of Gooseberries, which are often attended to last of all, owing to the damage done to the buds by birds. If pruning is deferred as late as possible, the basal buds, which are of chief importance, are more likely to be unharmed. Fruit trees on walls ought to be trained with some exactness, after pruning is completed. The best method of procedure is to detach the stems, remove all old shreds, which are often infested with insect pests or disease spores, and re-attach the trees to the wall, using fresh nails and shreds. Peach, Nectarine and Cherry trees are invariably trained in the shape of a fan; Pear and Plum trees may be trained in similar fashion or with the branches arranged in horizontal tiers.

Planting and spraying may be continued during this month, though, if the ground is very wet, planting is best postponed. If it is intended to graft fruit trees during March, scions or grafts ought now to be selected and partly buried in the soil in a cool spot.

Fruit Trees under Glass.—There is still time to renovate the borders in which Vines and Peaches are planted; even if it is not found necessary to do this, it is beneficial to remove a few inches of surface soil and replace with fresh turfy loam. Pruning ought to be completed during this month; directions were given in the notes dealing with work in December. If it is intended to produce a crop of Grapes in early summer, preparations must be made at once. When the Vines have been pruned and cleansed, the vinery is kept closed for a week or two, though no artificial warmth is employed. At the end of that period a night temperature of 45° is maintained, and in the course of a few weeks is increased to 50°. Strawberries in pots may be forced in the vinery, as conditions there suit them admirably; they ought to be placed on a shelf not far from the glass.

Round the Year in the Garden

In the Kitchen Garden

The time-honoured advice given to kitchen gardeners early in the year, is to make out, and dispatch, the order for seeds, and there is sound reason for it. Possessing the seeds, one is able to take advantage of suitable weather conditions for sowing. It is disappointing to have the ground prepared, yet to be unable to proceed when the opportunity offers, simply because one had failed to order seeds. Further, having decided to grow certain varieties of vegetables, it is annoying to find that they are sold out. It is wise to prepare a rough plan of the ground to be cropped, then an approximately correct quantity of seed can be ordered.

Vacant ground ought to be dug as opportunity offers, manure being used if the crop is such as to require freshly manured land. The protection of Globe Artichoke and Celery, by scattering a little strawy litter over them, is advisable in severe weather. Parsley may be protected by placing a frame over part of the bed, and Broccoli by breaking the leaves over the heads.

Forcing Vegetables.—The forcing of Rhubarb, Seakale and Chicory is easily accomplished by lifting the roots and placing them in boxes of soil in a dark shed, or other covenient position, as, for example, beneath the greenhouse stage, providing the side is covered in. Rhubarb and Seakale are easily forced out of doors now, by covering the roots with large pots and placing manure round about them. Perpetual Spinach is an invaluble vegetable, and roots from which the leaves have been gathered may be lifted and placed in pots or boxes of soil in a warm greenhouse; a fresh crop will soon be available for gathering. Mint is easily obtained by lifting and potting a few roots and growing them in the greenhouse.

It is advisable to make an early start in planting Horseradish, for a long season of growth is necessary. Roots about 8 inches long and $\frac{1}{2}$ inch wide are covered

with 2 inches of soil and put 10 or 12 inches apart. The ground needs to be deeply dug for this crop, and if the soil requires manure, this ought to be placed at least 12 inches down.

Seeds to Sow.—Broad Beans may be sown out of doors towards the end of the month, if an early supply is wanted; a suitable variety is Beck's Dwarf. Radishes germinate quickly in a warm greenhouse, and an early and welcome gathering of roots is obtained by sowing now. Seeds of Cauliflower Snowball, if sown under glass, will produce plants suitable for putting out of doors early in April. Peas, too, may now be sown in pots in the greenhouse. The variety Gradus is suitable. A useful crop of French Beans can be grown from seed sown now in pots in the greenhouse, while if early Tomatoes or Cucumbers are required, a few seeds ought to be sown in pots under glass. Those who grow Onions for exhibition, sow the seeds under glass towards the end of this month. For ordinary purposes it is not necessary to do so, although seedlings raised under glass are not so liable to be attacked by the Onion fly as those sown out of doors later.

Making a Hotbed.—Those who do not possess a glasshouse may obtain early vegetables by means of a hotbed. This is made of half strawy manure and half leaves, or wholly of manure. The latter is turned several times during the course of a week or ten days before being made up. The bed should be trodden down firmly, and then ought to be not less than from 2 or 3 feet in thickness. If no frame is available to place upon the hotbed the latter can be made in the ground, a low turf wall or a few bricks being used to support a glass "light," as the top of the frame is called. A bed of fine soil about 6 inches in depth is arranged on the hotbed, and there seeds are sown. After the bed of manure is made, a little air should be left on the frame for a few days to allow of the escape of fumes, and for this reason sowing ought not to take place immediately.

FEBRUARY

Dawning Spring

THE opening days of February mark the earnest beginning of the garden year, and the laggard now will be the loser later on. The increasing sunshine has awakened the garden from its winter sleep and brought joy to the heart of the gardener who began long months ago. He who has delayed must procrastinate no longer. The soil dries, enabling planting to be carried out in greater comfort and with greater convenience. The Snowdrops are already out, and the Winter Aconites—little yellow flowers in frills of green—and the Crocuses are opening wide to the pale sunshine. Daffodils, Tulips, Hyacinths and Grape Hyacinths are fast spearing through the soil, while the shoots of Spanish Iris and Ixia, which made their appearance long since, seem not to have suffered from the January cold. The buds of the earliest Saxifrages, apiculata, sancta and others, grow bigger every day, and show more colour, while the tufts of some alpines that had lost their vivacious green, or become sparse of leaves, are quickly regaining their attractiveness. The awakening to fresh life and beauty of the rock flowers is one of the delights of the garden at this time of year.

Among the Hardy Flowers

Pruning Clematis.—When Clematises are purchased it is wise to ascertain to which class they belong, so that one may know how to proceed with the pruning, for some kinds bear flowers on the shoots of the previous summer, and others on the new shoots of the summer

to come. The Jackmani Clematises are pruned to within 18 inches or 2 feet of the base at this season, providing they have been regularly pruned in this manner; if, however, there is some length of bare woody stem the shoots should be cut back only to within about 18 inches of this. I will give the names of some of the most familiar varieties in each section, so that readers may know how to prune; should they possess varieties other than those named, the vender should be asked to say to which class they belong. Well-known Jackmani sorts are the purple Jackmani, Jackmani alba, rubra and superba, Mme. Ed. André, Ville de Lyon, Star of India and Gipsy Queen. The lanuginosa Clematises also bloom on the fresh growths of the current summer, but they need rather less drastic treatment than the Jackmani kinds; last year's shoots may be cut half-way back. Familiar varieties are Henryi, Beauty of Worcester, Marcel Moser, Fairy Queen and Lady Caroline Neville. There are some fine double varieties among the florida kinds, which should not be pruned in spring; the time to prune them is after the blooms are over, then some of the old growths are thinned out; Belle of Woking, Duchess of Edinburgh, John Gould Veitch and Lucie Lemoine are excellent varieties. Similar pruning is needed by the patens group of Clematis, of which good varieties are Nellie Moser, one of the chief favourites, Mrs. George Jackman, Miss Bateman, Lady Londesborough, and Fair Rosamunde. The forms of Clematis viticella, which have smaller flowers, are not so commonly grown, though certainly deserving of cultivation; they bloom in late summer and autumn. Ville de Lyon and Thomas Moore are two fine sorts; the shoots should be pruned in spring. Failures to establish Clematis may often be traced to planting in heavy, ill-drained soil, and failing to cover the roots sufficiently deeply. It is wise to protect the lower part of the stem with a piece of slate or fir

branches until the plants are growing freely. The upper roots should be covered with 2 or 3 inches of soil, and lime rubble or broken plaster may be mixed in freely with advantage.

The Indian Crocus.—Those who wish to have a flower border edging that is not at all common should grow the flower of the West Wind, or Indian Crocus, as Zephyranthes candida is popularly called. It produces dark green narrow leaves, and in August and September yields a profusion of white flowers much resembling those of the Crocus. The bulbs may be planted now, about 3 inches deep. The display of bloom is not likely to be good the first autumn after planting, but, provided the bulbs are left undisturbed, there will be plenty of flowers in subsequent seasons. The plant is quite happy in a half shady position, as, for example, on the edge of a border facing west. There are several other sorts of Zephyranthes, though this is the only one that is really hardy. Another bulb that seems somewhat unworthily neglected is Veltheimia viridifolia; it is quite an excellent plant for the cool or cold greenhouse. One can scarcely call it handsome, but the pinkish-yellow, drooping blooms that cluster towards the top of a stem some 12 inches or more high are quite attractive. It may be grown very easily in a flower-pot in a compost of loam, with a little leaf soil and sand added; it blooms in August.

Sowing Sweet Peas Out of Doors.—The method of Sweet Pea growing most commonly practised nowadays is to sow seeds in pots in a greenhouse or frame in January or early in February, and in April to plant the seedlings out of doors. But seeds may be sown out of doors from now until the middle or, in the Northern counties, even the end of March, with every hope of success, providing the ground has been previously dug some 2 feet deep. Superphosphate of lime mixed in the upper 12 inches in advance of sowing, at the

rate of 2 ounces per square yard, is largely used by Sweet Pea growers. The seeds are sown about 6 inches apart in a double row, and covered with 1 inch or so of soil; if mice are troublesome the seeds should be moistened and coated with red-lead before being sown. Since disease is so common among Sweet Peas, it is advisable to sterilise the seeds before they are put in the ground, and this may be carried out by soaking them in a solution of permanganate of potash for a few minutes. A few varieties especially recommended for garden display are Dorothy, lilac or pale mauve; Dobbie's Cream, cream; Iolanthe, white; Tennant Spencer, bright mauve; R. F. Felton, lavender; Edith Taylor, rose pink; and Maud Holmes, crimson. Among older varieties still largely grown may be mentioned Dorothy Eckford, white; Lady G. Hamilton, lavender; Zarina, pink; Mrs. Townsend, white with blue edge; Helen Pierce, white veined with blue; Mrs. Hardcastle Sykes, pale pink; Flora Norton Spencer, pale blue; and Helen Lewis, orange and rose.

Pruning Early-flowering Shrubs.—Quite a number of shrubs blossom during February and March when outdoor flowers are scarce, and for that reason they are additionally welcome. The interest of a garden is, I think, dependent very largely upon the length of its flowering season; the border having nothing but leaves and stems to show until spring is waning to summer, and little more when summer is passing, lacks many good things of the flower world, and not least among them are the early shrubs. The pruning of shrubs generally seems imperfectly understood by many amateur gardeners, and it may be worth while to mention a few of those now in bud or blossom, and to describe how they should be pruned. Almost everyone grows the winter Jessamine (Jasminum nudiflorum), but few prune it at the proper time, which is as soon as the flowers are over; the growths that have blossomed are cut back

to within three or four buds of the base, so that vigorous shoots may develop which shall in turn yield flowers next winter. The fragrant winter-blooming Honeysuckles (Lonicera fragrantissima and Standishi) need little pruning, but thin and weakly growths ought to be cut away. The golden Bell Trees (Forsythia) need to be hard pruned when the flowers have faded, as advised for the winter Jessamine. The Witch Hazels (Hamamelis), with their curiously twisted yellowish flowers, are among the quaintest if not the showiest of early shrubs; the necessary pruning is provided by cutting out weakly growths, thus keeping the branches thinly disposed. The side shoots of the Winter Sweet (Chimonanthus fragrans) need to be cut back after the fragrant brownish blossoms are over. The sweet-scented Daphne Mezereum grows slowly and needs no pruning. Magnolia stellata, a lovely bush that bears a profusion of white blossom in March, needs scarcely any pruning, except that weakly shoots likely to crowd the centre of the bush are cut out. The Flowering Currants that are so gay in spring should have attention when the display is past, some of the oldest stems being cut out, if this seems needful. There is little to be done to Lilac at this season, though sucker growths, those that develop from the base of the bush, may be cut off; as fresh growth starts, disbudding is practised with the object of obtaining a limited number of good strong stems rather than a large number of weak ones, which rarely flower satisfactorily. Some other shrubs need hard pruning in spring; the stems of that charming blue-flowered August shrub, Ceanothus Gloire de Versailles, should be shortened now, for the blooms are produced by the fresh shoots. The same advice applies to the panicled Hydrangea (paniculata) and to the St. John's Wort (Hypericum calycinum), both of which bloom best on the fresh growths. Handsome summer-flowering shrubs are Buddleia variabilis and its varieties Veitchiana and

Rock and Pool Garden at Shoreham Cottage

magnifica; last year's shoots ought now to be shortened to within two or three buds of the base. Now is the time to prune late-flowering Spiraeas such as Aitchisoni and japonica; weak shoots are cut out and the others are shortened to within about 15 inches of the base.

Root Cuttings.—Propagation by means of root cuttings is a method of increasing plants that is not commonly practised by amateur gardeners, except, perhaps, unwittingly, when Dandelion, or Plantain, Couch Grass or other obnoxious weed is imperfectly removed; the pieces remaining in the ground are able to produce fresh growths, and so the plants are perpetuated. Yet quite a number of good plants are easily and preferably increased in this manner. Most people who have grown the beautiful blue Alkanet (Anchusa) have found it to be a doubtful perennial, and probably have discovered that a fresh supply of plants is obtained without difficulty by means of root cuttings. The Japanese Anemone (Anemone japonica) is another favourite hardy plant that is readily propagated in a similar way, although the same necessity does not arise in this case, since the Anemone is a true perennial. The Burning Bush (Dictamnus Fraxinella), which one does not see very often now, though both the type and the white variety are attractive border flowers—this, too, is increased by root cuttings. The same method may be practised for obtaining a larger number of plants of the handsome Plume Poppy (Bocconia cordata). Owing to its spreading roots, each little piece of which will grow, this plant is difficult to get rid of when once well established, and fresh growths continue to appear annually unless all the roots are carefully picked out. Other border plants of which root cuttings may be taken are Oriental Poppy, Crambe orientale (Ornamental Seakale), Sea Lavender (Statice), Monkshood (Aconitum), Paeony, Convolvulus, and, of vegetables, Seakale and Horseradish.

The method of preparing root cuttings is of the

simplest: the roots are cut up into pieces about 3 inches long and are inserted in soil either out of doors or in flower-pots. In gardens of light, well-drained land the cuttings may be placed out of doors, the border having been first well prepared by digging. But it is safer to put the cuttings in pots of light soil, and to place these in a frame for some time until leaf growth has developed. Planting out of doors is practised in spring or early summer. The pieces of root are usually inserted with the tops just below the surface of the soil. Autumn or early in February is a suitable time for taking root cuttings.

In the Greenhouse

Yellow Arum Lilies.—The yellow Arum Lilies are far less commonly seen in gardens than the white sorts. Amateurs undertaking their cultivation are apt to treat them like the familiar Easter Lily, as the white Arum is sometimes called, with disappointing results. The roots or tubers should be at rest during the winter months. When, in late summer, the flowering season is over, and the leaves begin to lose their freshness, the supply of water to the roots should be gradually discontinued; when the leaves have fallen, watering should cease. The roots remain in the pots of soil during winter, the latter being turned on their side so that the soil is kept dry. They must, of course, be stored in some frost-proof place. In spring the roots are taken out and repotted in fresh soil, and grown in a heated greenhouse. The flowering season is summer. The two best yellow Arums are Elliottiana and Pentlandi, of which the rich yellow spathes and handsome leaves give a striking display.

Dahlias and Room Plants.—If Dahlia roots which have been stored during winter are now placed in boxes of soil and kept moist, growth will soon com-

mence, and cuttings may then be formed from the young shoots, or the clumps can be divided for planting out of doors later on. The old roots usually yield a large number of flowers of moderate size, while plants grown from cuttings give fewer but finer blossoms. Those having no heated greenhouse may plant the tubers out of doors in April. The roots of Cannas should now be treated similarly; the stock of plants can be increased readily by dividing the clumps. Now is the time to start into growth other greenhouse roots, such as Begonia, Achimenes and Gloxinia. Ferns and palms that need repotting should be attended to at this season; a compost of two-thirds loam, one-third peat, with plenty of silver sand, is suitable for most of them. Maidenhair Ferns are much improved if the old fronds are cut off; fresh ones will soon grow. Now also is the time to repot such room plants as may need this attention: Aspidistra, Dracaena, Indiarubber plant, and others. A soil similar to that advised for ferns is suitable. It is a mistake to use larger flower-pots than are really essential; the plants are generally healthier in comparatively small ones, providing they are properly watered. If old plants of Zonal Geraniums are pruned now, fresh shoots will soon form and should be taken off and inserted as cuttings to provide plants for next winter.

Cuttings of Chrysanthemums for decorative purposes should still be inserted in pots of sandy soil. Those put in early in the year are now rooted and must be kept cool, otherwise they will become weak and "drawn." As soon as well rooted in the small pots they must be repotted, using a compost of turfy loam with which a little leaf soil and sand are mixed.

Bedding plants ought now to be increased from cuttings as they are required. Stock plants potted last autumn make rapid growth in a warm greenhouse and shoots are soon available for cuttings. They form roots readily in pots or boxes of sandy soil. Cuttings that were

inserted in autumn are well rooted and their tops may now be taken off as fresh cuttings.

Sowing Larkspur and Lupin.—Among hardy plants of which seeds may be sown now to produce flowering plants this year Delphinium (perennial Larkspur) and Lupin hold high place. Lupins grow most rapidly and will be in bloom in August, if not before; Delphiniums are not so accommodating, but small flower-spikes may be expected in late summer and quite good ones next year. Seeds of first-class sorts in mixture may be obtained, and some of the seedlings will prove as fine as named varieties. The charming pale mauve Scabious (Scabiosa caucasica) will bloom in late summer from seeds sown now in warmth, so, too, will that lovely golden-yellow flower Coreopsis grandiflora (which is unsurpassed both for border display and for cutting) if grown quickly and given liberal treatment. I have never been able to induce Border Carnations to flower the first year from seed, but by sowing now splendid plants are obtained by autumn, and the following summer they yield sheaves of blossom in all sorts of bewitching colours. Really good seed must be secured, then the percentage of single flowers will be small and the double blossoms of excellent quality.

I believe most amateurs who grow Carnations from seed fail to get good results because they sow too late; February and March are the best months. The details of cultivation are much the same in the early stages for all these plants. A temperature of 60° is best, though rather less warmth will suffice. Shallow pans or boxes are more suitable than pots, since they offer a greater surface and less depth; they should be drained with crocks for about one-quarter of their depth, filled with sifted sandy soil, and moistened by immersion to the rim in a bowl of water some hours before the seed is sown. It is unwise to sow the seeds thickly; otherwise the seedlings become drawn and weakly and spoil each other. A

covering of glass and brown paper will help to keep the soil moist, and this is of the greatest importance in ensuring germination. When the seedlings are 1 inch or so high they are transferred to other pots or boxes; subsequently they are hardened off and planted out as becomes necessary.

Rock Plants from Seed.—The possession of quite a number of alpine plants raised from seed sown in February of last year reminds one how easily many of them are grown in this way. Some will blossom during the coming summer, though most will not flower until next year. That charming rose-coloured Primrose (Primula frondosa) is certainly one to begin with; a packet of seeds will provide at least a score of plants, and a $3\frac{1}{2}$-inch wide flower-pot is big enough to accommodate each one until flowering time. Mine have been in pots of this size throughout the winter, plunged to the rim in a bed of ashes, and now in the cold greenhouse their beautiful white leaves are pushing forth, and soon the lovely rosy blossoms will show. Primula capitata, a late summer Primrose from the Himalayas, should also be sown, more especially as, in most gardens, it is a biennial only, and dies after having flowered. The pursuit of gardening involves a good deal of timely anticipation, but once one has made a start there is no lapse in the display providing, as each season comes round, its tasks are carried out. Lots of other Primulas may be grown from seed sown now, such, for instance, as japonica, pulverulenta, rosea, sikkimensis and cortusoides. The dainty little Primula Forbesi is an annual, and by sowing seeds at intervals one may have plants in bloom for weeks together. The Pinks are easy from seed, notably, Dianthus caesius, graniticus, deltoides, arenarius and plumarius; so, too, are many Campanulas. That lovely evening Primrose, Oenothera missouriensis, will bloom next summer from seeds sown in the greenhouse or frame, and one may say the same of Dianthus arenarius, Antirrhinum glutinosum, Aethion-

ema coridifolium, Campanula carpatica and pusilla, Alpine Poppy (Papaver alpinum), Alpine Toadflax (Linaria alpina), Silene alpestris, Sedum coeruleum, Tunica Saxifraga, Vittadenia triloba, and Viola gracilis. If the names of some of these are unfamiliar the plants will prove none the less delightful to those who make their acquaintance for the first time. The seeds are sown in well-drained pans filled with sifted, sandy soil, and are kept moist and shaded until germination. They should be placed in a greenhouse or frame; if this is slightly heated the seedlings will show through all the more quickly.

There are many surprises in store for those who sow seeds of alpine and border perennials. Some of them may be expected to germinate within from two to four weeks in a greenhouse temperature of about 50°, while others are notoriously slow. Among seeds that I sowed last March were those of that charming white-flowered Windflower, Anemone sylvestris; the seedlings failed to appear during spring, so the seed-pot was left out of doors throughout summer and winter. During the last week or two the little plants have sprung up quite thickly, twelve months after sowing. The seeds of many bulbs, Anemone, Primula Auricula, hardy Cyclamen, and others are often very slow in germinating, especially if the seed has been stored for some time, and it is thus wise to obtain freshly-gathered seed of these kinds in summer and to sow it as soon as received. No one knows for how long seed will retain its germinating powers, though generally speaking fresh seed is undoubtedly to be preferred. Probably most failures occur through sowing thickly, covering the seeds too deeply and to indiscriminate watering. The merest sprinkling of sand or sifted soil is sufficient for small seeds, and the soil needs to be kept always moist by spraying daily with a fine syringe and by covering with glass and paper. As soon as the seedlings show they should be placed fairly near

A ROW OF MODERN SWEET PEAS

ROSE LA FRANCE, BORDERED BY PALE BLUE VIOLA

the glass and shaded. Moisture should be given only by immersing the flower-pots or pans in water.

Stocks and Asters.—These are perhaps the most valuable of all half hardy annuals, and when well grown few flowers give greater delight or a more abundant harvest. Both have been very greatly improved by florists, and the strains of seed offered by seedsmen give excellent results. Ten-week Stocks are usually found easier to grow than Asters; seedlings of the latter damp off in alarming numbers under unsuitable conditions, while those of the former are not so fastidious. Thin sowing, careful watering, timely transplanting of the seedlings, with discriminate ventilation, are the chief aids to success. In a damp, close atmosphere the seedlings are more liable to fail than when, as gardening phraseology has it, the atmospheric conditions are "sweet and buoyant." The seedlings should be moistened by immersing the flower-pot or pan in a bowl of water, not by pouring water among them through the spout of a watering-can. Some people dislike Stocks because a proportion of the flowers are single. It is, I admit, difficult to admire single-flowered Stocks; yet if a good strain of seed is obtained, and care is taken of the small and insignificant seedlings, there is usually not much to complain of. More often than not it is the big, sturdy seedlings that produce most of the single flowers. As double flowers cannot produce seeds, it follows that these must be saved from single or semi-double flowers, and for this reason a certain percentage of single blooms must always be expected when seed of Stock is sown. I find that the seedlings thrive well in an ordinary greenhouse or in a frame on a hot-bed that has cooled down somewhat. The single Asters, e.g. the Comet varieties, are preferred by most people, and they are undoubtedly delightful as cut flowers.

Some Half Hardy Annuals.—The old white fragrant Tobacco (Nicotiana affinis) is still as great a favourite as ever with flower lovers; its blossoms open in full beauty

towards evening and fill the garden with their fragrance. From seeds sown during February and March an excellent display may be ensured in late summer. The plants are quite easy to grow, but should not be put out of doors until May. One may now obtain varieties in many shades of colour, and if they are not quite so fragrant as the white kind they afford welcome change and add gaiety to the display. Drummond's Phlox (Phlox Drummondi) may be considered one of the indispensable half hardy annuals, and a sowing during February will provide plants that will blossom for weeks onwards from July. I tried this plant one season among the Roses, but it was not a great success, for the plants became tall and weakly owing to lack of sufficient light, and, while not blooming very freely, were rather a nuisance among the Rose shoots. Those who wish to try something in place of the ubiquitous Viola or Tufted Pansy as a ground covering for the Rose beds might plant the dwarf bedding Lobelia; it is a brilliant little blue flower and remains in beauty for a long time. Everyone will, of course, sow seed of the Summer Cypress (Kochia scoparia), or Burning Bush, as it is sometimes called; this is a most charming plant, closely resembling a miniature tree; it grows from 2 to 3 feet high, is of symmetrical form, and the leaves are light green until late summer, when they become autumn tinted, brown, red, and bronze. Some gardeners sow the seed out of doors where the plants are to grow, but I have always had the best results from sowing in February in the greenhouse and potting the little plants singly in small pots for planting out in April. One of the most attractive August flower-beds I remember to have seen consisted of plants of the Kochia interplanted with orange-coloured Montbretia.

Pruning Roses in the Greenhouse.—The chief pruning of climbing Roses in the greenhouse ought to be carried out in summer, when the display of bloom is over; some of the oldest shoots are then cut back to force the

development of fresh ones. The finest blossoms are borne on stems that formed the previous summer, though flowers are also produced by the side growths on the older stems. It is the latter that need attention now. They may vary from 10 to 20 inches long, and are shortened little or much according to their vigour. Such as are almost of the thickness of a lead pencil may be left 6 or 8 inches long, but all thin growths are best cut back, to within about two buds of the base; the fresh shoots that will form as spring advances may be expected to yield flowers, though they will not be so fine as those on the strong, fresh stems that grew last year. Rose Maréchal Niel is, or perhaps it would be nearer the truth to say that it was, a favourite Rose for the greenhouse. It is still easily king of Roses, though few seem to grow it really well. It thrives best as a half standard. Rather drastic treatment in the way of pruning appears to give the best results, for its wonderful golden blossoms are only obtained in perfection and in quantity from vigorous growths of the previous summer. To ensure these, severe pruning is practised when the flowers have faded; all the shoots are cut back to within a few inches of their base. Then, in a warm and moist temperature, the tree makes extraordinarily rapid growth, and before the end of the season will have produced strong shoots many feet in length, shoots that are certain to flower abundantly the following summer. It is very pleasant to have a few Roses in pots in bloom in late spring, a few weeks before the earliest are expected out of doors. They should now be pruned and placed in a temperature of 45°; later on, as growth advances, they may be given more warmth. Pruning should be fairly hard, last year's growths being cut to within two or three buds of the base.

Annuals for the Greenhouse.—Unless one makes timely preparation the greenhouse is likely to be somewhat bare of blossom during the summer months; by sowing seeds now of several charming half hardy annuals

this disappointment may be avoided. Browallia speciosa and its variety major are charming blue-flowered plants for summer blooming in the greenhouse, and are quite easily grown in pots from seed sown during the next few weeks. Then the Butterfly Flower (Schizanthus) makes a brilliant display; the flowers are obtainable in many showy colours. The Nemesias, especially the orange-coloured sorts, though quite commonly used for summer bedding, are well worth growing in pots. Arctotis breviscapa, yellow, and grandis, white, with lovely, big, Daisy-like blooms, are not often seen in the amateur's greenhouse, yet both are easy and give welcome variety. Among the so-called Everlasting flowers there are several of especial interest. Of the annual Sea Lavenders the finest is Statice Suworowi, an attractive plant with handsome rose-coloured blooms on tall stems; Statice Bonduelli is a yellow-flowered Sea Lavender that will bloom in summer from seed sown now. The Rhodanthes and Acrocliniums, or Fairy Immortelles, make very charming plants for pots, and their flowers and those of the other Everlastings may be cut and used for indoor decoration. Helichrysum is another Everlasting suitable for pots, its large double blooms may be had in many colour shades, orange, crimson, yellow, etc. Then, of course, one may grow Mignonette, Asters, Stocks, Zinnias, Forbes' Primrose (Primula Forbesii) and other common annuals. All these flowers are attractive and quite easy to grow.

One has only to sow seeds in pots of sandy soil, in a temperature of 50° or 55°, subsequently transferring the seedlings to 5-inch pots, and during the summer grow them in an airy, unheated greenhouse. Some care is necessary while the plants are in the seedling stage, especially with regard to watering and shading them, but afterwards they are quite amenable to the care of the unskilled amateur. The prettiest plant to use as an edging to the stage in the greenhouse is Helxine Solieroli, an unpardonable name distinguishing a low,

close-growing plant that forms a mass of tiny green foliage. It is really hardy—I grow it on the rockery—though it seems happier under glass. One can obtain charming specimens if it is planted in the centre of a flower-pot; it soon reaches the edge and subsequently creeps over the side, altogether covering the pot with its mantle of green. Another beautiful little plant of this character, though additionally attractive owing to its bearing a crop of orange-red berries, is Nertera depressa; both these are perennial. Cobaea scandens is a vigorous perennial climber, though flowering the first year from seed; it is really too rampant for the small greenhouse, but its large cup-shaped purplish blossoms are handsome. It may be sown under glass now for planting out of doors in May.

Greenhouse Climbing Plants.—A suitable selection of climbing plants adds largely to the charm of the greenhouse. Those that form masses of dense foliage should be avoided, and others might well be trained to the rafters as much as possible. Thus the amount of shade given by the climbers will be negligible. If, on the other hand, evergreen or close-leaved sorts are chosen and trained beneath the glass, plants in pots on the stage below are bound to suffer. Generally, greenhouse climbers are more successful when planted in a small border than when grown in flower-pots, though large tubs or pots answer the same purpose providing watering is carefully practised. When the roots are in a border they are not likely to suffer from drought, as is liable to happen if flower-pots are used. The Abutilon is an excellent climbing plant; it is true that the leaves are rather large, but if the shoots are hard pruned each spring, and the main stem is secured to the rafter, the plants beneath do not suffer. There are many beautiful varieties, e.g. Boule de Neige, white; Golden Fleece, yellow; and Sanglant, red. The plants bloom throughout a long season, during spring and summer, and the drooping bell-shaped blossoms come very freely. Fuchsias, too, make admirable greenhouse climbers; they

also need hard pruning each spring. Both Fuchsias and Abutilons are long-lived when grown in this way, and annually produce graceful, pendent, flower-laden shoots. The exquisite blue-flowered Plumbago capensis is a favourite climber that blossoms most profusely. It is necessary to shorten the shoots in spring; many amateurs fail to do this, and their plants consequently become prematurely weak. Clematis indivisa lobata is a splendid climbing plant, though perhaps too vigorous for the small greenhouse; the slender shoots become wreathed with white, starry flowers in spring. The Scarlet Trumpet Flower (Tecoma capensis), Jasminum grandiflorum, yellow, the blue and white Passion flowers (Passiflora caerulea and variety Constance Elliot) are other good climbers, while Heliotrope and Geranium, too, are suitable, more especially for training against the wall or on a pillar.

The Oleander.—If one may judge by the number of questions asked with reference to its cultivation, the Oleander (of which the correct name is Nerium Oleander) is one of the most popular of half hardy flowers. A well-grown and well-blossomed plant is very beautiful, showing strong, smooth stems, attractive leaves and, above all, the exquisite rose-pink blossoms that reward the skilled grower. The Oleander, a member of the Periwinkle family, is a native of Southern Europe and the Near East, and there delights in sunshine and mud; it grows wild in swampy land by the side of rivers. These conditions give us a clue to the treatment it needs in gardens. During its season of growth it requires an abundance of water, and subsequently full exposure to sunshine, so that the shoots may be matured. It is wise to stand the pot in water during the summer months; throughout the winter it needs the protection of a glasshouse, that it may be safe from frosts. Although, no doubt, want of sunshine is responsible for some of the disappointments occasioned by lack of blossom, the blame cannot be wholly laid there; starvation treatment is largely

accountable for flowerless plants. It is not likely that the Oleander will continue to flourish and to flower unless it is given liberal cultivation ; it must be repotted or given a rich top-dressing of fresh soil annually. Only by inducing it to grow strongly, and by endeavouring to get the shoots firm and hard, can one hope to make it bloom regularly. When the flower buds are developing small growths usually push out around them, and if these are not removed they make such progress as to cause the flowers to wither away. It is best to repot as soon as the flowers are over and to keep the plant in a warm, moist atmosphere for some weeks to encourage fresh growth, subsequently exposing it fully for the sake of the ripening, upon which the harvest of blossom is dependent.

In the Fruit Garden

Planting may still be carried out in mild weather, if the soil is moderately dry, and all pruning ought to be completed early in the month. As soon as the surface soil is " workable " it should be forked over, and a dressing of yard manure may be given with advantage.

Autumn fruiting Raspberries are pruned now, the canes or stems of last year's growth being shortened to within a few inches of the ground. The fruits are produced by the stems of the current season, not, as is the case with summer fruiting Raspberries, by those of the previous season. If the old shoots, which have borne fruits, have not yet been cut away from such berried fruits as Loganberry and Blackberry, no time should be lost in carrying out the work ; the fresh stems, those of last summer's growth, are tied to the supports.

Fruit Trees under Glass.—Vines and Peach trees under glass start growing this month, even when the glasshouse is unheated, providing it is in a sunny position. Great care is needed in ventilating, to avoid extremes of temperature, and it is wise to admit a little air

early in the morning in mild weather. In fact, the glasshouse should be kept as cool as possible so that the trees may start into growth gradually. In the heated vinery the buds have already burst; a night temperature of from 45° to 50° is quite high enough, and the ventilators must be opened slightly when the thermometer registers 55°. They should be closed early in the afternoon. Seeds of Melon and Cucumber may now be sown singly in small pots of soil, preferably placed on a hotbed in the glasshouse.

In the Kitchen Garden

The Parsnip is a vegetable that needs a long season of growth, and if the soil is in suitable condition seeds may be sown thinly in rows 15 to 18 inches apart. The seedlings must be thinned subsequently until they are 10 or 12 inches apart. The roots of Jerusalem Artichoke may be planted now; this vegetable is very vigorous, and the roots ought to be 12 inches apart, in rows 2 feet from each other. Rhubarb can be planted this month, and old clumps lifted and divided. Each root put in must have one or two good buds or eyes and be put from 2 to 3 feet apart. Leaves ought not to be pulled from a fresh plantation of Rhubarb the first season. If Shallots have not already been planted, the cloves, as the bulbs are called, ought to be got in now. It is necessary merely to press them in the soil sufficiently to make them firm; they must not be wholly covered.

It is possible to grow Potatoes upon the same ground year after year, providing the land is well cultivated and manured, and, most important of all, that fresh seed, preferably Scotch or Irish, is obtained in alternate seasons. Unless the latter precaution is taken the crop will certainly deteriorate. Tubers of early varieties ought to be prepared for planting out of doors next month, by placing them on end in shallow boxes in a

cool, light position so that the buds or eyes may sprout. The sprouts are limited to two, or at the most three, on each root. An early dish of Potatoes is obtained by planting the tubers in a bed of soil made up in a frame from which frost can be excluded, or they may be grown in pots in the greenhouse. Sharpe's Victor is a reliable variety for this purpose.

Seeds to Sow.—Those having the convenience of a greenhouse or a hotbed made up in a frame should sow seeds of Radish, Carrot, Turnip and Lettuce; they will provide acceptable early produce. Seeds of Cauliflower and Brussels Sprouts sown now will yield useful plants for putting out of doors later on to ensure early crops, while Leek and Onion may now be raised under glass.

Early Peas can be sown out of doors on a warm border. Sowing should be done somewhat thickly, for there are sure to be losses among the seedlings. It is advisable first to moisten the seeds and then shake them in a tin of red lead or to soak them in petroleum to prevent damage from birds and mice. Broad Beans may be sown now, the seeds being placed 4 inches apart in a double row.

MARCH

Sowing and Planting

AS spring progresses, so does the garden increase in interest and the procession of the flowers gather volume. On every hand there are signs of fresh life; buds burst to leaf and blossom, fresh colour patches are added to the garden carpet, bare soil is hidden beneath unfolding greenery—the faint-hearted gardener feels that summer is on the way. Happy is he who, under the shelter of a greenhouse or frame, sowed seeds early in the year, for by now he has a collection of seedlings that gain daily in strength, while freshly sown seeds are forming their first leaves. Those not so happily circumstanced should commence seed-sowing in earnest out of doors as soon as the surface is sufficiently dry to be broken to a fine tilth. The planting of Roses and all other shrubs (except choice evergreens), fruit trees, climbers and bushes must be completed this month or very early in April if they are to give satisfaction the first season, though they will not be comparable with those put in the ground at the proper time—five or six months ago.

Among the Hardy Flowers

Pruning Roses.—The pruning of Roses is a question of absorbing interest at this season of the year; like many other gardening tasks it is really simple, though, apparently, not at all well understood by amateurs. While it is true that a good Rose bush may be marred by incorrect pruning, it does not follow that a poor one can be transformed by correct pruning, for so many

other details, such, for instance, as choice of stock, soil, and planting, exert an influence on the career of the tree. It is obvious that, before starting to prune, one should have some knowledge of the effect that will follow the shortening or removal of the stems or shoots; to prune without discrimination and merely to give the plant a presentable shape is a practice that can only lead to dire results. If it were remembered that the majority of climbing Roses bear the best blossoms on growths of the previous summer, and that bush, or dwarf, and standard Roses yield the finest blooms on growths that have still to develop, fewer mistakes would be made.

Often enough those who do not know are actuated by a desire to prune Roses in a fashion exactly contrary to that which is correct. For example, one often finds that climbing Roses are hard pruned and dwarf Roses lightly pruned; the result is that the best flowering growths of the former are cut away, and the latter have no chance of producing shoots that will bear satisfactory blooms, for the best flowers are borne by strong shoots. Weeping standards are formed by climbing Roses, so that their pruning is similar to that needed by the latter.

The conditions of soil and climate exert a considerable influence on pruning: especially do they modify or even nullify the effects of wrong pruning. If one's garden is on rich loam soil, and the district is mild and warm, then most Roses will thrive and blossom, in spite of indifferent pruning, or if not pruned at all. But such gardens are in the minority, and the question of pruning is still one that needs careful practice to ensure the best returns.

Pruning Newly-planted Roses.—There is no doubt that newly-planted Roses, those put in between last autumn and the present time, benefit by really severe pruning. Whether dwarf or climbing sorts, the stems

should be cut back hard, those of the bush Roses to within two or three buds of the base, of the climbers to within 4 inches of the ground; then, and only then, may vigorous shoots be expected that will give the trees a good start in life. In dealing with established Roses—those that have been planted for two or three years, or longer—one cannot advise in such a definite manner, yet I firmly believe that hard pruning is best; one may, in consequence, obtain rather fewer Roses, yet they are blooms that delight their possessor, and there is no doubt that Roses hard pruned live the longest, or, if not the longest, at least the most satisfactory lives. They are always lusty and healthy, and show none of those miserably thin growths and bare stems which characterise Roses that have been lightly pruned. With climbing Hybrid Teas—and especially the climbing "sports" such, for example, as Climbing Liberty, Climbing Richmond, etc.—it is better, instead of cutting down the stems to within a few inches of the ground, to leave them about 2 feet long. When, later on, fresh stems develop, the old ones are cut out.

An Explanation of Pruning.—So far as the actual cutting of the Rose bushes is concerned, the directions are simple; it is in their application that difficulties arise. The plants differ so remarkably in vigour and form of growth that it is impossible to advise concerning each variety, let alone each form of plant. The first thing to do is to cut out thin and weakly shoots, snags and dead pieces; then comes the actual shortening of the remaining stems. The weaker the growth the harder should it be pruned. Any shoot not thicker than a penholder may be pruned to within two or three buds of the base; on shoots rather stronger four buds, and on those as thick as the top of one's little finger five or six buds may be left. Yet even this direction may lead one astray, for the buds are much farther apart on the stems of some varieties than on others; it would perhaps

be safer to say that the stems described should be pruned back respectively to about 1, 2, and 3 or 4 inches.

There will appear to be little left of the plants when pruning is finished, but that need be no cause for alarm; the buds are there, and in due time they will burst into vigorous growth. Some Roses produce unusually long, strong shoots, which, instead of being shortened in the orthodox fashion, may be pegged down; the result will be a large number of blooms, though possibly their stems may be short.

Pegging down is advisable with such varieties as Avoca, Hugh Dickson, Frau Karl Druschki, Mrs. Stewart Clark, Clio, Madame Isaac Pereire, and others. The tips of the shoots are attached to pegs in the ground, the Roses thus being arched over in semicircular fashion.

Roses Needing Special Care.—Some Roses need little or no pruning, as, for instance, Grüss an Teplitz, F. K. Druschki, Aimée Vibert, Zephirine Drouhin, and Conrad Meyer; it is necessary merely to cut out old and useless stems and to shorten such laterals as may need it; the shoots of Grüss an Teplitz especially should not be shortened beyond cutting off the tips if they seem thin and soft. Hybrid Perpetual, Hybrid Tea and Tea Roses are most commonly grown as bushes; the H.P.'s and H.T.'s, as they are usually called, need treating as described above; there will probably be little to do to the Teas after the thin, weakly shoots have been cut out, beyond shortening the remaining ones by about half.

Tea Roses are perhaps an exception that proves the rule I have ventured to enunciate, for they seem to thrive best when, after the first season, pruning is only moderately severe. In dealing with China Roses cut out the small twiggy shoots and shorten the others by about one-half. The new Pernetiana class of Roses are chiefly of spreading growth, like the Teas, and need similar treatment. Rose trees that have been neglected

for several years, and have in consequence become bare at the base and full of long, flowerless shoots, will benefit by hard pruning; they may be cut back into the old wood. Although flowers will be scarce during the coming summer, the plants will gain renewed vigour and take on a fresh lease of life.

Pruning Climbing Roses.—A start may now be made with the pruning of climbing Roses, those on walls, which start earliest into growth, being dealt with first. Those belonging to the Noisette class, such, for example, as Madame Alfred Carrière and William Allen Richardson, bloom freely from side shoots on the older stems, as well as from the growths that developed last summer; the latter should be tied in almost full length, old stems being cut away to make room for them if necessary; the former are cut back to within two or three buds of the base, though if unusually strong about one-third only need be cut off. The Hybrid Teas need similar treatment. Rambling Roses are sometimes grown on walls, though the open garden is a better place for them; they, too, blossom from side shoots on growths more than one year old, though the best display is from last year's stems. Late in summer is the best time to prune these Roses, but if the work was not done then it may be carried out now with advantage. It seems a waste of valuable space to put such Roses as Crimson Rambler and Dorothy Perkins against a sunny wall; they are happier on arches in the garden, and there are many lovely Roses that will thrive only in a warm sheltered position.

Much may be done to assist climbing Roses that are weakly by digging a trench about 6 feet from the stem and forking away the soil until plenty of roots are exposed; the old soil is removed and replaced by fresh turfy loam with which bonemeal at the rate of a good handful to a barrowful of soil is mixed. This material is worked well among the roots and made firm. Roses planted against a hot sunny wall are liable to suffer from drought if the spring is dry,

for they benefit little from rainfall; this is especially the case when the soil of the garden is light and sandy. In these circumstances much benefit accrues if rotted manure is placed on the soil round about the stems and forked beneath the surface; this should be followed by a thorough watering.

Planting Roses in Spring.—When planting is carried out at this late season greater care is necessary than when the work is done in autumn, for the Roses will be called upon to make growth before they have had an opportunity of forming fresh roots. In the first place, the roots are more likely to become dry and to shrivel than in November, when the air is moist and there is an absence of sunshine; thus it is wise, on receipt of the Roses, to dig a trench and bury them for a day or two, covering them completely with soil. Again, should the weather be warm and dry, it is likely that the roots will lack sufficient moisture, and watering above ground has not always the desired result. The day before the Roses are put in pour a canful of water in the bottom of each hole, the soil then will remain moist for a long time. A large hole for each plant is essential; it should be quite 2 ft. across so as to encourage the quick development of fresh roots. Basic slag may be mixed with the soil below the roots and bonemeal in the soil just above them.

Roses for Walls.—Requests are often made for a selection of Roses for walls of different aspects; the following varieties are among the best for these positions. For a wall facing south choose François Crousse, crimson; Lady Waterlow, blush and carmine; Madame Hector Leuilliot, golden yellow; Climbing Kaiserin Augusta Victoria, cream; Rêve d'Or, yellow; Climbing Mrs. Grant, pink. For a wall facing west, William Allen Richardson, orange-yellow; Madame Alfred Carrière, white; Bouquet d'Or, creamy-yellow; Noella Nabonnand, crimson; Madame Bérard, buff; Zephirine Drouhin, rose; Florence H. Veitch, crimson. Facing east, Gloire de Dijon, cream-yellow;

Mrs. Stewart Clark, rose; Conrad F. Meyer, pink; Aimée Vibert, white; Félicité Perpétue, white; Grüss an Teplitz, crimson. For a north aspect one probably could not do better than select Gloire de Dijon, Félicité Perpétue, and Conrad F. Meyer. Some of the climbing "sports" from bush Roses—for example, Climbing Liberty, Climbing Caroline Testout, and Climbing Lady Ashtown—are useful Roses for a fairly sunny wall. Really any of the vigorous Hybrid Teas or Hybrid Perpetuals will climb if they are put out in good soil against a warm wall—for example, Hugh Dickson, La France, Avoca and Madame Abel Chatenay.

Renovating the Lawn.—The present is a suitable time to sow grass seeds either for the purpose of making a new lawn or for renovating an old one. If the former purpose is in view, the ground should have been prepared some weeks ago by digging, removing stones, and raking and rolling to obtain a level surface. The seed is sown fairly thickly, say, 1 oz. to each 1½ square yards; it should be distributed from north to south and from east to west to ensure that the surface is well and regularly covered. When sowing is completed the seed is raked beneath the soil, the surface is then trodden over and again raked; providing the ground is sufficiently dry, rolling should follow. It is far easier to maintain an established lawn in good condition than it is to renovate an unsatisfactory one, especially if the grass is given hard wear. Frequent light applications of sand help considerably towards the maintenance of a good sward.

The work of repairing bare places needs to be done thoroughly, or little good is accomplished. It is not sufficient to loosen the soil with a rake, sow seeds, and cover them; following such a practice some of the seeds may germinate, but many of them will not do so, especially if dry, warm weather follows. The soil should be dug to the depth of 12 inches and to the extreme edge of the bare patch. The surface having been raked to a

fine tilth, the seed may be sown in confident anticipation of its germinating.

The protection of freshly-sown grass seed is one of the annoyances of gardening, yet birds must be kept away, or they will take the lot. When the area to be protected is small, the use of fish netting placed on short sticks to raise it above the ground is perhaps the most satisfactory; there are many varieties of bird scares, but it is doubtful if any of them fulfil their purpose. On a newly-sown lawn of large extent the services of a boy with clappers, especially very early in the morning, is to be recommended. After all, the annoyance does not last long, for in favourable weather the seeds show through in about a fortnight, and then are safe, for it is the seeds, not the seedlings, that the birds seek. The use of a preparation called Horticol, to be obtained from nurserymen, is said to prevent the seeds being attacked by birds.

Enriching the Lawn.—Lawns on which the grass is thin may be improved by a dressing of sifted soil with which bonemeal or guano or any of the advertised lawn manures is mixed. It will soon be washed in by the rains, and the grass will then derive benefit from its application. On lawns infested with clover the use of nitrate of soda and sulphate of ammonia is recommended; these substances are mixed in equal parts, four times the amount of soil being added. When the newly-sown grass on patchy lawns has made some progress, it may be assisted by watering with a solution of nitrate of soda once a week for three or four weeks, $\frac{1}{2}$ oz. to 1 gallon of water.

There is little doubt that the unsatisfactory state of many lawns is due to poverty of soil; year after year the lawn is mown, the cut grass being removed; it is probably given hard wear, yet nothing is done to counteract the impoverishment of the soil. The lawn, as well as the flower beds and borders, needs to be en-

riched occasionally. It is advisable when mowing a lawn on which the sward is thin to dispense with a grass box and to allow the cuttings to remain; providing the grass is cut regularly and before it gets long the cuttings are not unsightly. There is little doubt that a lawn so treated lasts in health longer than one from which the cut grass is removed. Not the least of the benefits of the grass cuttings is that they help to keep the soil moist during dry weather, and as they are soon washed out of sight by rain or by water from the hose, the advantages of this method, where it is practicable, outweigh the disadvantages.

The Weedy Lawn.—The use of lawn sand offers the best means of getting rid of Daisies; though it causes the grass to turn brown, this recovers its normal colouring as fresh growth develops. Early in April is the time for its application. The removal of such coarse weeds as Dandelion and Plantain is a tedious task, and there is probably no better method than rooting out each one; it is not sufficient to cut off the top, for others will soon grow if the root is left intact. Piercing the heart of each with a pointed wooden skewer dipped in sulphuric acid is also to be recommended, though this may not prove altogether so effective as rooting up the weeds. So far as I know, there is no substance that one can apply broadcast for getting rid of these coarse-growing, deep and strong-rooting weeds. It often happens that the lawn verge becomes worn and uneven, and consequently unsightly. This may be remedied by a simple expedient. All that one has to do is to cut off a marginal strip of turf, about 12 or 15 inches wide, turn it round, and replace it so that the worn edge is in contact with the lawn and the new, straight edge near the path. The small space between the broken edge and the lawn proper is filled with sifted soil; seeds are sown there, and soon it will be difficult to detect any signs of the patching.

Planting Border Carnations.—Amateurs generally do not seem to get full satisfaction from their Border Carnations, but the fault is their own; one, or perhaps two, flower stems usually represent the harvest of bloom from a single plant. Yet this is by no means its full productive capacity. Among the chief causes of failure are late planting and putting out layers that are insufficiently rooted. It is hopeless to expect a satisfactory display from Carnations put out now unless they are in pots; layers detached from the parent plant at this season, and forthwith planted, are not likely to bloom well; the root disturbance is so considerable that they have not time fully to recover before the flower stems are due. Plants put out from pots need be disturbed scarcely at all, it is necessary merely to remove the crocks and to disentangle the roots slightly with a pointed stick. Needless to say, the border should be well prepared before the Carnations are planted. If the soil is ordinarily good a scattering of bonemeal at the rate of a handful to the square yard will provide all the fertiliser that is necessary until the flower spikes show, when diluted liquid manure will prove beneficial. Some really first-class varieties are Mrs. Robert Gordon, pink; Elizabeth Shiffner, buff; Amy Robsart, white; Rony Buchanan, rose and terra-cotta; Agnes Sorrel, dark crimson; Brigadier, scarlet; Ellen Douglas, grey; and Border Yellow, yellow.

Violas or Tufted Pansies are charming flowers, and none can afford to dispense with them; if the faded flowers are picked off, the plants continue to bloom throughout the summer. They are useful for planting among Roses, in groups in the mixed flower border, or as a ground-covering or margin to Rose beds. Cuttings inserted in boxes or in a frame last September have formed well-rooted plants by now, and may be put out of doors towards the end of this month. There are numerous varieties, of colours to suit all tastes, and many

nurserymen have different names for similar sorts. One of the most satisfactory of all for the garden is Maggie Mott, of lavender-blue colouring; it blooms most profusely from early until late summer. It is possible to form some simple though effective colour schemes with Roses and Tufted Pansies, providing the former are fairly correctly grouped in colours. For example, the variety Maggie Mott looks best beneath pink Roses; yellow Violas associate best with crimson Roses; purple Violas with yellow Roses, and so on.

Pentstemons, though really hardy perennials in many gardens, are commonly raised from cuttings in September, like Tufted Pansies, and the young plants are put out now. Some of the smaller-flowered varieties are, I think, more attractive than the larger ones. Three that especially appeal to me are Newbury Gem, Southgate Gem and Myddleton Gem.

Hardy Annuals.—Hardy Annuals are, in some ways, the easiest of all flowers to grow, and there is the temptation, for that reason, to pay little heed to their likes and dislikes, but merely to sow them and to hope for the best. Useful as they are when given fair treatment, they are perhaps the most unsatisfactory of all hardy flowers when left entirely to look after themselves. Their lives are so short—they flower from seed in about three months—that they have no chance of recovering from neglect and indifferent cultivation. Annuals are commonly regarded as of value for filling blanks in the mixed border, but to set them among tall perennials, as is often done, is simply to court failure; they need sunshine and fresh air. They provide the finest display when grown in beds in the open, garden or in patches towards the front of the mixed border where they will not be overshadowed by more vigorous neighbours. Some of them may be grouped towards the margin of the Rose beds if their presence there is not objected to.

March—Sowing and Planting

Seed of most kinds is so freely supplied by seedsmen that one is always liable to sow too thickly. Next in importance to sowing thinly comes the task of thinning out the seedlings; it is astonishing how even low growing kinds like Nemophila will spread into large tufts if they have the necessary space. Moreover, a few plants well grown produce a finer display than three times the number of others that are ill-developed. As soon as the surface is fairly dry the soil should be pulverised, a little leafmould and sand being mixed in where the seeds are to be sown if this seems necessary. It is useless to put the seeds in wet, lumpy soil; very few of them will germinate. It may be advisable to sow seeds in a frame or in boxes and subsequently to transplant the seedlings out of doors. In fact, those who wish to grow half-hardy annuals, yet possess no heated greenhouse, ought to sow seeds now in prepared soil in a frame; this is more satisfactory than sowing the seed out of doors later on.

There are innumerable hardy annuals from which to choose, but the following ought to be considered indispensable. Sweet Alyssum and its dwarf variety, variously known as Little Dorrit, compacta, etc.; annual Chrysanthemums, which bear showy Marguerite-like blooms of various colours; Rose Mallow (Lavatera rosea), a tall plant, about 3 feet high, bearing lovely rose-coloured flowers; Love-in-a-Mist (Nigella hispanica), the variety Miss Jekyll being chosen; Coreopsis Drummondi and tinctoria, which give an abundance of blossom, the former yellow and brown, the latter yellow; Clarkia, of which there are now some showy varieties; Candytuft, in a variety of colours; Delphinium, or Annual Larkspur, of which especial mention should be made of Blue Butterfly and the rose-scarlet; Sweet Peas; the brilliant red Flax (Linum grandiflorum rubrum); Mignonette; Poppies in variety, but especially the Shirley Poppies, and umbrosum, a magnificent red and black sort.

There are many others from which a selection may be made to suit individual choice. A few call for special mention. The blue Woodruff (Asperula azurea setosa) is a charming little plant full of blossom for weeks together, and it appreciates a certain amount of shade. The Violet Cress (Ionopsidium acaule) is the smallest of all annuals, and is suitable for sowing in the rock garden or between the chinks in a paved path. It is only about 2 inches high, and bears tiny pale-mauve blooms. One may have the Nemesia in various colours now, but none is so beautiful as the blue variety, a plant that none should miss. The seeds of Nemesia ought not to be sown out of doors before April, though the seedlings may be raised now in a frame or greenhouse. The annual Bellflowers are not often seen, but at least one of them (Campanula macrostyla) is handsome. The blooms are large and of bluish shade. Another pretty sort is Campanula attica. Various so-called Everlastings are found among the annuals. Helichrysum is the most vigorous, and bears large blooms of various colours on stems some 2 feet high. Daintiest of the Everlastings is Acroclinium, of slender growth; the flowers may be had in rose or white.

The Mixed Border.—A careful selection of plants is essential to a satisfactory and continued display in the hardy flower border, and there is little doubt that if greater variety characterised the average mixed border the show of blossom would be more prolonged and give deeper delight. Everyone grows Lupins, Larkspurs, Oriental Poppies, Hollyhocks, Phlox, and other familiar plants, and they are without doubt indispensable. But others, not so well known, or at least not so widely grown, are essential to full success. Take for instance some of the most vigorous perennials, a few plants of which give an air of distinction to the display: such, for example, as the Meadow Rue, Thalictrum angustifolium, which grows 6 feet high, and aquilegifolium, reaching

CANTERBURY BELLS, SPANISH IRISES AND TUFTED PANSIES

GRAPE ALICANTE, A GOOD BLACK VARIETY FOR AMATEURS

FLOWER-FRINGED PATH IN THE ROCKERY

some 4 feet only; Stenanthium robustum, bearing white-blossomed plumes 5 feet or more high; Linaria dalmatica, with an abundance of light yellow blossom; Spiraea gigantea, a white-flowered kind, 6 feet high; Eupatorium purpureum, Cimicifuga racemosa, Scabiosa lutea, Eryngium giganteum, one of the Sea Hollies, and Echinops exaltatus, a giant Globe Thistle. All these are hardy plants of vigorous growth and bold, distinct appearance, and can scarcely fail to give character and welcome variety to the border arranged only with more familiar kinds.

Other beautiful hardy plants that occur to one as being unworthily neglected are Campanula lactiflora, and its white variety, two very delightful free-blossoming plants growing some 4 feet high; Campanula latifolia macrantha, of similar stature, with big, handsome purple blooms; the newer Astilbes or Spiraeas, with lovely plumes in various shades of pink and rose; Artemisia lactiflora, a most graceful plant, some 5 feet high, and bearing in August and September sprays of creamy-white blossom in profusion. Further, one might mention Salvia virgata nemorosa, a valuable purple-blue border flower, blooming throughout a long summer season, and looking always neat; the exquisite blue Salvia patens, having tuberous roots, that need to be stored during winter; Achillea Kelwayi, a fine yellow-flowered perennial; the rose-coloured Yarrow (Achillea Millefolium rosea); Veronica spicata, a good blue flower, virginica, blush-white, subsessilis, violet-blue, gentianoides, pale blue, and incana, a pretty grey-leaved dwarf plant suitable for the margin of a border or walk.

Completion of Planting.—Now is the time to complete the planting of the mixed border; the longer the work is delayed the fewer are the chances of a fine display next summer. There is no preparation so good as digging the soil 2 feet deep, for this provides the roots with a "good run," and enables them to make quick progress; if farmyard manure is difficult to obtain, bone-

meal is an excellent fertiliser to use at this season. It should be scattered on the soil at the rate of about 4 oz. to the square yard and then forked in. During the last week or so the tufts of perennials have made marked progress, enabling one easily to see where the plants are, and incidentally allowing the soil between them to be turned over with a fork. This work does a lot of good in aerating and "sweetening" the soil, and if bonemeal is mixed in at the rate advised, the plants will grow all the more strongly for its help.

Bulbs for Spring Planting.—The planting of bulbs is naturally associated with garden work in autumn, and that is the season at which most bulbs are put in. Some kinds are commonly planted in spring, in February or early March, and among them are flowers of great value and indispensable to every garden. The Cape Hyacinth (Hyacinthus candicans) is a handsome plant that forms a tuft of large, rather untidy leaves, and in late summer bears white, drooping, bell-shaped flowers on a tall, stout stem: the bulbs should be planted about 3 inches deep. It makes a most handsome lawn bed for August. Among Lilies (Liliums) that are usually planted in spring the Golden-rayed Lily (auratum) is perhaps the greatest favourite, though as a rule the bulbs are not long-lived unless in peaty soil among shrubs; there they are likely to prove more lasting. The finest varieties of this Lily are rubro-vittatum, marked with a reddish band down each petal, and platyphyllum, white, spotted with crimson; these are, however, expensive, each bulb costing twice or three times as much as one of the typical sort, which varies considerably, some forms showing deeper colouring and more spots than others. The Japanese Lily (speciosum) is another kind that is largely grown, and of this there are several handsome varieties. Speciosum Kraetzeri is a lovely white Lily, Melpomene is heavily marked with crimson, and rubrum is spotted and tinged, though less heavily, with rose and crimson.

The varieties of both these Lilies are suitable for planting either in the garden border or for growing in flower-pots. In the border the bulbs should be at such a depth that there is 5 inches of soil above them, since roots form on the stem above the bulb as well as from the base of the latter. If grown in flower-pots, those of 6 or 7 inches in diameter, according to the size of the bulb, are most suitable. The bulbs should be placed low in the pot, to allow of top-dressing later on. They need be only just covered with soil until growth has started, and a frame from which frost is excluded is the best place for them; a compost of turfy soil, with a little leafmould or peat and sand added, is satisfactory, and there should be good drainage.

The Tiger Lily (Lilium tigrinum) is a most reliable kind, and in average soil can be relied upon to reappear each spring without fail; so, too, may Lilium speciosum and its varieties. Splendens and Fortunei are two fine varieties of the Tiger Lily; this is a stem-rooting kind, and the bulbs should be planted at a similar depth as advised for those above named. The Trumpet Lily (Lilium longiflorum) is not generally satisfactory out of doors for long, though it is unsurpassed as a Lily for pots.

The old Orange Lily (Lilium croceum) is perhaps the hardiest and sturdiest of all, and almost every cottage garden possesses its giant clump; the brilliant orange-red flowers make a brave show in June. Early autumn is really the time to plant bulbs of this sort, though they may be put in now. Davuricum and its varieties, of which there are many, has flowers of orange-red shades chiefly; it is one of the good-natured sorts. Before planting Lily bulbs, even those of the easiest cultivation, it is wise to mix sand and leafmould freely with heavy ground, and to choose if possible a place among low shrubs or other plants, so that the young stems may have some protection as they develop. Most other Lilies

suitable for planting out of doors are best put in the ground in early autumn to ensure their flowering the following season. However, if bulbs can be obtained, there is no reason why others should not be put in now, if autumn planting was neglected, but they may not bloom during the coming summer.

Iris and Montbretia.—Spanish and English Irises, though suitable for autumn planting, are often put in at this season; they are easy bulbs, and so gay as to be quite indispensable in both the flower beds and borders, and here and there in the rock garden; the colours of the Spanish Iris are chiefly blue, white and yellow, while flowers of the English Iris are chiefly white and of purple, blue and mauve shades: they may be left undisturbed for several years, until, in fact, the clumps become crowded, which they are likely to do in three or four seasons. Ixias are well worth trying out of doors in well-drained, warm places in the rock garden, or in a sunny border; they will not thrive in cold, heavy soil, but, providing leafmould and sand are freely mixed in, and the border is drained, they offer little difficulty; some protection in winter is advisable. Needless to say they thrive admirably in pots in the greenhouse.

Montbretias are invaluable for spring planting; their showy flowers, in shades of orange and yellow, add greatly to the gaiety of the garden when the chief summer flowers are waning. It is not necessary to disturb the roots in autumn, though some growers take them up each year, and replant in spring. Probably one gets the finest flowers in this way, since an opportunity is offered of sorting the roots and replanting in the show beds only the biggest that are sure to bloom. I grow them in rather heavy, loamy soil, some in sunshine, some in shade, and they are only taken up and replanted every three years. There are some lovely new named varieties obtainable, though these are expensive in comparison with older kinds, such as Pottsi and aurantiaca; the roots

should be planted some 2 or 3 inches deep. Montbretia rosea is a charming kind with rose-pink blossoms. The correct botanical name of Montbretia is now Tritonia, though for garden purposes the former is much more familiar.

Planting Gladioli.—There are now so many sections of Gladioli that the uninitiated may become puzzled in attempting to form a selection. The chief groups are those known as gandavensis, Lemoinei, Childsi and nanceianus. The gandavensis group is the oldest of all, the varieties are late flowering, and the colour range is a wide one. Bulbs of seedlings comprising many charming shades of colour can be obtained more cheaply than named varieties. The Lemoinei Gladioli were raised by M. Lemoine, a French nurseryman, by cross-breeding between Gladiolus gandavensis and another kind, purpureo auratus; they are known popularly as the Butterfly flowered Gladioli, owing to the distinct colour blotches found on the flowers, which are generally smaller than those of the gandavensis type. The nanceianus kinds are distinguished by a looser spike of bloom and large flowers. Among the Lemoinei and nanceianus types are found some exquisite colourings, especially of blue shades. The Childsii Gladioli are fine, vigorous sorts containing some beautiful flowers in which shades of yellow are often prominent. One should not lose sight of the old red-flowered Gladiolus brenchleyensis, which is very easily grown and requires little attention in the way of staking, and this is more than can be said for some of the newer sorts, whose larger blooms render the stems top-heavy. The bulbs of Gladioli should be planted 3 or 4 inches deep, according to the size of the root (which is technically a corm), in soil that has been deeply dug; wood ashes are an excellent material to mix in the soil, failing this bonemeal may be used with advantage. They should be placed 8 to 10 inches apart, so that each plant may have sufficient room in which to develop.

In the Rock Garden.—No time should be lost in completing the planting of the rock garden, otherwise the plants will scarcely have time to become sufficiently established to produce a satisfactory show of flowers, for most of them blossom in April, May and June. At this late planting season it is of great advantage to obtain alpines in pots, then root disturbance is slight, and there is no check to their progress. Well-drained, gritty soil is essential to success with most kinds, and a general compost consists of two-thirds loam or turfy soil, one-third peat or leaf soil, with an addition of grit or sand. Such a mixture will suit many Alpine Pinks, Cushion and Silvery Saxifrages, Campanulas, Sedums, Aubrietias, Alyssum, Veronica, Geranium and other showy kinds. The lovely blue-flowered Lithospermum prostratum thrives best in peat, so too do Epimedium, Ramondia pyrenaica, Trillium or Wood Lily, some of the Primulas—for instance, frondosa, farinosa, sikkimensis and rosea—Cypripedium, Haberlea rhodopensis and Linnaea borealis. The addition of lime to the soil greatly benefits many alpines, such as Silvery Saxifrages, Edelweiss, Alpine Poppy, Androsace lanuginosa, Acantholimon, Potentilla nitida, Primula Auricula, Aethionema, and others.

It is wise when putting in choice alpines, and especially if the soil is not really well-drained, to make a sort of moraine for each plant or group of plants. This is accomplished by digging out a hole some 12 inches deep, filling the lower 6 inches with stone or broken brick, and the remaining 6 inches with a mixture of prepared compost and stone chips. The glass covering may now be removed from those alpines that were protected in this manner during winter as a precaution against damage by excessive wet. Such a covering seems in some cases to induce alpines to flower that otherwise might not do so; this is especially noticeable with the charming little purple Snowflower, Soldanella alpina.

Clipping Ivy.—The complaint is often made that after some years Ivy becomes unsightly owing to the large size of the leaves and their dull colouring, and to the fact that the creeper harbours dust and dirt. The remedy is a very simple one, namely, to clip the Ivy severely at this season of the year. All the old leaves may be removed and the plant cut back close to the wall. As spring progresses, fresh, clean leaves will appear, and clothe the wall with a mantle of delightful green. If this work is carried out in the depth of winter the creeper remains bare and unsightly for weeks; if, however, it is deferred until late in March or early April, fresh growth soon shows, and the stems are bare only for a short time. It is a matter both for wonder and regret that some of the ornamental-leaved Ivies are not more often grown in place of the common green kind. They may not be quite so vigorous, but they are much more attractive, and in suitable positions grow quite strongly enough. Maderensis variegata is one of the best.

A shrub the pruning of which is often inquired about is the St. John's Wort (Hypericum calycinum), an admirable little plant for covering the ground in shady places. It, too, needs to be cut hard every second year, then fresh growth springs up strongly from the base and in due course bears its large and showy golden-yellow blossoms.

Early-flowering Chrysanthemums are among the finest border plants of late summer and autumn, and every garden ought to find room for a few. The present is an excellent time to lift and divide the old clumps, or to take cuttings, many of which may be detached already possessing roots. Those that have not, will quickly become rooted in a frame, if this is kept closed for a week or two.

Climbers for a North Wall. — A north wall is understood to mean one having a northern aspect, the worst

possible position for plants generally, owing to lack of sunshine. Yet a few climbers are sufficiently accommodating to thrive there. The Winter Jasmine (Jasminum nudiflorum), Golden Bell (Forsythia suspensa), Japanese Quince (Pyrus japonica), the variegated (silver and gold) Ivies, and the Climbing Hydrangea are among the most useful climbers for a shady wall. The latter seems not to be well known. When established it clings to the wall like Ivy, by means of stem roots; it is leaf-losing, and in summer bears flat bunches of white blossom. It is essential to have the ground drained and well dug so that the soil does not become sodden. This practice tends to assist the "ripening of the wood," towards which, in a more favourable aspect, sunshine is so important a factor. The branches of the climbers must be arranged thinly; if they are allowed to become crowded there is less chance than ever of their bearing flowers. Among the rampant climbers suitable for a north wall, those impossible of attachment in orthodox fashion by means of nails and shreds, are the Traveller's Joy (Clematis Vitalba), Virgin's Bower (Clematis flammula) and the beautiful Polygonum baldschuanicum. Roses suitable for a north wall have already been mentioned.

Hotbeds.—Those who do not possess a glasshouse will find a hotbed to be of great advantage, for by its aid seedlings of many favourite plants can be raised. The most useful hotbed is made of leaves and strawy manure, which may be mixed together in about equal quantities. This mixture, while not giving so much warmth as manure alone, is more lasting and therefore likely to be generally useful. The manure ought to be turned over thoroughly several times before being made up, and the hotbed must be trodden firmly, otherwise it will not retain heat. If a 6-inch layer of soil is placed upon the leaves and manure, half-hardy annuals and vegetables in variety may be raised there with

ease. The hotbed ought to be from 2 to 3 feet thick, and a frame be placed upon it.

In the Greenhouse

This is a busy month in the greenhouse, and the available space will be taxed to the utmost. There are half-hardy annuals to sow, seedlings of which will be planted out of doors next month. Of these the Summer Cypress (Kochia scoparia) is one of the worthiest; it forms a miniature tree of exquisite green and in late summer turns red and brown. It is best to put the seedlings singly in small pots when they are transferred from the seed box. Stocks and Asters are, of course, invaluable half-hardy annuals, and the prospective grower has a wide choice of types and varieties exhibiting a considerable range of colour. The seedlings may be raised in boxes of soil placed in a frame or greenhouse. When large enough to handle they are best transplanted to a bed of soil made up in a frame, there to remain until planting out time late in April. Phlox Drummondi is another favourite among half-hardy annuals, and a packet of mixed seed gives varied colours. Many gardeners treat Nemesia as a half-hardy annual, though seeds may be sown out of doors early in April. The flowers show considerable range of colour among shades of orange and yellow, but the blue is loveliest of all. The Butterfly Flower (Schizanthus), Salpiglossis and African and French Marigold are other favourites.

Annuals for the Greenhouse.—There are many charming flowers among annuals suitable for growing in pots in the greenhouse, and as they help to provide blossom when it is likely otherwise to be scarce, some ought certainly to be grown. The Torenia—of which there are two kinds, Fournieri, white and violet-coloured, and Bailloni, yellow and purple — is very attractive.

Arctotis grandis, greyish, and Arctotis breviscapa, orange, are two handsome plants with large, Marguerite-like blossoms. A charming creeping plant suitable for a hanging basket is Thunbergia alata, buff with dark centre. Lobelia tenuior is a particularly graceful blue-flowered plant of slender growth. The blue Stonecrop (Sedum coeruleum) is a charming little flower suitable either for sowing now for pots or out of doors on the rockery next month. The Statices, or Sea Lavenders, make handsome pot plants, and especially Suworowi, which bears spire of bright rose-coloured bloom. Of Everlastings one may choose either Rhodanthe or Acroclinium: both are dainty. Then there are Petunias for those who like them, but it is wise to choose the colours with care, for some of them harmonise with nothing else. The Tobaccos (Nicotiana), which are obtainable in a variety of colours, are perhaps too vigorous for a small greenhouse, but they ought certainly to be sown preparatory to being planted out of doors next month. The Grenadin and Marguerite Carnations, which bloom in about six months from seed, are very welcome in the greenhouse in August, and are well suited to cultivation in pots. An uncommon though meritorious annual for the greenhouse is called Browallia elata, having blue flowers. Finally, there is the Globe Amaranth, with so-called everlasting flowers in various attractive colours.

Winter-flowering Begonias are perfect flowers for a heated greenhouse. When the blooms are over the plants are given gradually less water, and finally are partially "dried off" for two or three weeks. If watering is now resumed fresh growths will soon form, and these are taken off and inserted as cuttings. They become rooted in a short time if put in pots of sandy soil in a propagating case in the warm greenhouse. It is not wise to attempt the cultivation of these plants unless a minimum winter temperature of about 55° can be main-

tained. Gloire de Lorraine, with pink flowers, is chief favourite among those bearing a profusion of small blooms, and the white variety called Turnford Hall, too, is valuable. Another class of winter Begonias bears larger and showier flowers, though they are not produced quite so freely as by plants of the Gloire de Lorraine type. The shades of colour are chiefly pink, rose, red and orange-red. A few good varieties are John Heal, Emily Clibran, Winter Perfection, Ensign and Winter Cheer.

Winter-flowering Carnations.—Cuttings ought now to be inserted to provide plants that will bloom next spring. The growths most suitable for cuttings are those found on the central portion of the stem. Cuttings of Perpetual Carnations that were rooted early in the year and are now in small pots may be "stopped"—in other words, the top of the shoots ought to be pulled out—to induce side shoots to form. It is usual to stop the young plants twice—first when they are about 6 inches high, and again when fresh shoots have reached a similar length—but all "stopping" should be completed by the middle or the end of June. As has been pointed out already, cuttings of Perpetual Carnations form roots most readily in boxes or pots of silver sand placed on the hot-water pipes.

Dahlias are readily increased by means of cuttings. These are obtained by potting the old roots or by placing them in boxes of soil. If the latter is kept moist they will soon start into growth, and when the fresh shoots are 3 or 4 inches long they are taken off and inserted as cuttings. In small pots of sandy soil placed beneath a handlight in the greenhouse they soon take root. It then remains but to repot into slightly larger pots when the smaller ones are full of roots, and to harden them off gradually for planting out of doors in late May or early June. Flowers of the finest quality are produced by fresh plants raised annually, but those who do not wish to go to this trouble may now start the old roots

into growth in the greenhouse and plant them out of doors, undisturbed, in May. Still another way is to plant the old roots in the open garden in April. They yield an abundance of flowers which are usually smaller than those obtained from young plants. There are now many classes of Dahlias, and numerous varieties in each class. Those best suited for garden display and for cutting for the home are the Single, Decorative, Collarette, Paeony-flowered and Pompon Dahlias. Many of the Cactus varieties bear flowers having weak stems, and the foliage is often so luxuriant as to detract from the display of blossom. The old show Dahlias are imposing, but they take up a lot of room. The finest Dahlia for the garden is, so far as I have seen, a decorative variety called Kaiserin Augusta Victoria, bearing an abundance of double white blossoms. Two others almost equally valuable are Glare of the Garden, reddish, and Orange Glare of the Garden, orange-red. But the Collarette Dahlias, in which the inner ring of florets is of a different colour from the remaining portion of the flower, are admirable for the garden, while of the Singles one cannot speak too highly. The Paeony-flowered and the Giant Decorative are tall, vigorous plants that bear large semi-double blooms in a variety of brilliant colours.

Geraniums for Winter. — Zonal Pelargoniums, or Geraniums as they are more commonly called, are among the most brilliant winter flowers for the greenhouse. A minimum temperature of from 55° to 60° is necessary if they are to be really good. Those who possess old plants should cut them back now and insert the fresh growths as cuttings, using small pots filled with sandy soil and giving little water until roots have formed. They should not be put in a closed propagating case or they may "damp off." When the cuttings are rooted they are repotted into larger pots, and during summer are grown in an airy, sunny frame. The tops must be pinched off to promote the growth of side shoots, and all flower buds

A TERRACE ROCKERY—THIS, THOUGH LACKING IN NATURAL CHARM, IS WELL SUITED TO ALPINE PLANTS

A ROCKERY FORMED BY ARRANGING LARGE BOULDERS IN IRREGULAR GROUPS

WELL-FRUITED TOMATOES GROWN IN POTS IN AN AMATEUR'S GREENHOUSE

that show should be removed until within a few weeks of the plants' transference to the greenhouse, which will be late in September. The best soil to use for Zonal Geraniums is turf loam, with which a little leaf soil is mixed, together with a free sprinkling of sand.

The Scarlet Sage (Salvia splendens) is valuable as a winter flower in the greenhouse. If the old plants are partially cut down and kept in a moist and warm atmosphere, new shoots suitable for cuttings soon make their appearance, and in pots of light soil in the propagating case quickly form roots. They must be repotted as becomes necessary in a compost of loam with a little leaf-mould and sand, and during summer are kept in a cool and sunny frame. The shoots must be stopped to ensure the development of well branched plants. Cuttings of Fuchsias are easily obtained from old plants, the branches of which have been shortened; they form roots readily if treated as advised.

Tuberous Begonias, either for cultivation in pots or planting out of doors, ought to be taken from the pots or boxes of sand in which they have passed the winter. If placed in boxes filled with light, leafy soil and partly covered, the roots soon produce fresh growths, and may then be potted separately in a mixture of loam, leaf-mould and sand. If repotted, later on, into 6-inch pots and kept in a cool and airy greenhouse, they provide an excellent display throughout the summer. Out of doors, Tuberous Begonias prefer a somewhat shady position.

Gloxinias are commonly regarded as hothouse flowers, yet they thrive admirably in an ordinary greenhouse, providing roots are obtained now and treated as advised for Tuberous Begonias. During summer they need to be kept cool and shaded. Seed may be sown now to provide roots that will blossom next year. To produce plants from seed to blossom the first year it is necessary to sow in warmth in January.

It is the custom to place several cuttings of bedding

plants in one pot early in spring for the sake of convenience, and the plan answers well, providing at this season they are repotted separately in small pots. If this is not done the roots will become matted together, and growth will be checked. This remark has reference to such as Geranium, Fuchsia, Heliotrope, Marguerite and others used for a similar purpose.

The Blue-flowered Coleus is an excellent plant for winter bloom in the greenhouse; its long spikes, bearing numerous small, blue flowers, make a striking and uncommon display. Those possessing old plants may raise a fresh supply by means of cuttings taken from the growths, which quickly follow when the stems of the old plants are shortened. It needs only the shelter of a cold frame in summer. The points of the shoots must be pinched out occasionally to make the plants branch freely, and repotting should be given as required, the final pots being those 6 inches wide. The commoner kinds of Coleus, those grown for the sake of their handsome leaves, may also be grown from cuttings inserted now; they are obtained from old plants which have been partially cut back, and form roots readily in pots of light soil in a closed case in the greenhouse. These kinds of Coleus may also be raised from seed, though it is best to sow rather earlier in the year to produce really good specimens.

Those who are growing Chrysanthemums for the production of large blooms must attend to the repotting of the young plants as soon as this becomes necessary. Early repotting is more than ever necessary when several were placed in one flower-pot. Chrysanthemums must be kept as cool as possible, and a cold frame is the best place for them from now until they are placed out of doors; even there, air must be admitted freely, except when the weather is cold. Protection by means of mats at night is advisable.

When bulbs grown in pots in the greenhouse have

finished flowering, it is not necessary to throw them away, as so many people do, for if planted out of doors in odd corners where there happens to be room, they will continue to increase in beauty year by year. This is especially true of Daffodils, and in a lesser degree of Tulips and Hyacinths, though even they, or at least the best of them, are worth saving. Roman Hyacinths and the earliest Tulips, however, are best thrown away.

The Chimney Bellflower (Campanula pyramidalis) is one of the most striking of all the plants in this family, and when the 5- or 6-feet high stems are clothed with blue or white blossom in July, they make an imposing display. This Bellflower is commonly treated as a biennial, but unless seed is sown sufficiently early in the season, the plants will not blossom the following year. If, however, seed is sown during March no anxiety need be felt. The seed will soon germinate if kept moist and shaded in the greenhouse, and the seedlings must subsequently be repotted singly in small pots. If repotted as becomes necessary in loamy soil, and kept in a frame throughout summer, they will be excellent plants before winter. During winter the protection of an ordinary frame or greenhouse is sufficient, for this plant is really hardy. In spring the final repotting is given, pots 8 or 9 inches in diameter being chosen, and the plants will blossom in July.

Repotting Room Plants.—This is the season at which ferns, palms, Aspidistra, Dracaena and other plants commonly grown in rooms are repotted if necessary. As a rule these plants thrive best in comparatively small pots, especially when grown in a room, and unless they really need a "shift," as the gardener puts it, they ought not to be given a larger pot. Often all that is required is to remove as much as possible of the surface soil, to see that the drainage is satisfactory, and to replace with fresh compost the soil taken off. Those that must be repotted should be placed in only slightly larger pots. Palms

prefer a compost consisting chiefly of peat, with which a little loam and some sand are mixed. For ferns a good general mixture is that of loam two thirds and peat or leaf soil one third, with sand freely intermixed. Aspidistra, Dracaena, Araucaria, Aralia and other common room plants are also well suited by similar compost. Plants of Ficus or India-rubber, Aralia and Dracaena, which have become bare of leaves at the base or "leggy" may be rejuvenated by the process known as "ringing." A ring of bark is removed just beneath the lowest leaf (a slit made in the stem at that point answers the same purpose), moss is tied round it and kept moist by syringing. In due course roots will issue, and when it is seen that they are plentiful the stem is gradually cut through. Finally, in the course of two weeks or so, the stem is severed and the new plant is potted. Maidenhair Ferns usually become shabby during the winter; the old fronds may now be cut off to make way for the fresh ones that will soon replace them. All green-leaved plants that are grown for the sake of their leaves, need shade and moisture; on the contrary, those having brilliantly coloured foliage should be exposed to the sunshine.

In the Fruit Garden

Planting Fruit Trees.—The planting of fruit trees out of doors ought to be completed without delay. It is late even now for this work, and crops of any value cannot be expected this year. Large holes should be prepared, no manure being used, the uppermost roots must be within 2 inches or so of the surface, and the soil made firm. Fruit trees now in bloom on walls should be protected if possible in case of frost. This is most conveniently carried out by means of light canvas supported by poles to keep it off the trees. In large gardens, canvas blinds are fixed to the wall so that they can be rolled up and down as may be needed. The protection

of fruit trees in the open quarter is a matter of greater difficulty. The best results are obtained by means of special open stoves in which fires are lit when frosty weather threatens; it is found that the warmth of the smoke is sufficient to prevent the flowers being damaged.

Grafting Fruit Trees.—The most useful method of grafting, since it enables one to make old fruit trees into new ones and to substitute valuable varieties for worthless ones, is that known as crown or rind grafting. The old branches are cut back to within a convenient distance of the trunk, say 12 to 18 inches, and the grafts or scions are inserted round the edge of the stock, between the bark and the wood of the shortened branches. Each scion is pointed so that it may be inserted easily behind the bark, and 2 or 3 inches from the pointed end a horizontal cut is made half way through the scion; this fits easily on the upper surface of the stock and has the effect of keeping the scion firm. Three or four or even more scions may be grafted on each shortened branch. The process is completed by covering the base of the scions with grafting wax or clay, so that air is excluded. Seccotine is said to answer the purpose just as well, and it is certainly convenient to use.

Unless preparations were made some time ago, grafting fruit trees may not be successful. It is usual to cut back the branches of the trees in February and to prepare the scions early in the year. The latter are chosen from firm shoots of the previous year's growth, and are put on a border facing north until wanted for grafting late in March, two-thirds of each shoot being beneath the soil. Then the conditions commonly acknowledged to be essential to successful grafting are secured—a stock in which the sap is moving freely and scions that are dormant. Yet so full of surprises is gardening that those who, wishing to graft, have not observed these preliminary precautions need not be

deterred from making an attempt to renovate their fruit trees.

As hardy fruit trees against walls out of doors commence to blossom it is wise to take measures to protect them from frost. This is most conveniently done by means of canvas or tiffany blinds attached to the top of the wall and capable of being rolled down as occasion requires. In the absence of these, ordinary fish netting, double thickness, may be used.

There is much work to be done among fruit trees under glass, for at this season they make rapid growth. If, as advised, the side shoots of the Vine were pruned to within two buds of the base, probably both buds have started into growth. One of them must be rubbed off. When the shoots are about 1 inch or so long, it is possible to see which contains an embryo bunch of grapes, and this, of course, should be allowed to remain. If both contain a tiny bunch, the weaker of the two is rubbed off. Considerable care is required in ventilating the vinery at this season, because bright sunshine and cold winds often occur at the same time. A little air should be admitted early in the day to prevent the temperature rising too high, and the ventilators may be opened wider as the day progresses, providing the sunshine continues. If the vinery is allowed to get very warm, and air is admitted freely with the object of lowering the temperature, harm is bound to follow. It does not matter very much whether the night temperature is 40° or 50°; what is of chief concern is to keep as regular a temperature as possible. If the vinery is heated, a night temperature of about 50° can be maintained with very little artificial heat at this period, while if the greenhouse is unheated it may fall to 45° or even 40°. The Vine is hardy, and cold will not damage it, though wide fluctuations of temperature are undoubtedly harmful. It is a good plan to admit a little air when the thermometer registers 10° higher than the night temperature, and if

the weather is warm and sunny, to increase the amount of air during the morning. In the afternoon, early or late according to the weather, the glasshouse should be closed with the object of increasing the temperature by natural warmth. When cold winds prevail, air should be admitted with greater caution and always if possible on the leeward side.

As the side shoots of the Vine increase in length, it becomes necessary to attach them to the trellis; this needs to be done with great care or they may break off at the base. In the first place, a piece of raffia is passed over the upper end of the shoot (which is pulled down slightly) and tied loosely to the trellis. In a day or two the shoot may be pulled down still farther and made secure.

Disbudding Peach Trees.—The chief work in connection with Peach trees is that of disbudding, of which an understanding is essential to correct cultivation. The fruits of the current summer will be produced upon the shoots that grew last year, and, similarly, the fresh growths now developing will bear next year's crop. These are so numerous that it is obvious they must be thinned or disbudded. When disbudding is completed there should remain two or three fresh shoots only on each of last year's growths; one of them must be at the top, another at the base, while, if there is room, another may be left at the middle. Thus it is of importance, before disbudding is begun, to select the three shoots that are to remain finally. All superfluous growths must not be removed at once; the work ought to be completed in about three weeks, and be carried out on three occasions. In this way the growth of the tree is not checked. As the remaining shoots increase in length they are attached to the trellis. While the trees are in bloom air ought to be admitted to the Peach trees as freely as the weather will allow, and it is wise to draw a soft brush gently over the flowers to disperse the pollen.

Melon, Cucumber and Vegetable Marrow.—Seeds may now be sown in the greenhouse or upon a hotbed in a frame. They are placed singly in small pots. Melons may be grown either in large pots or in mounds of soil made up on a hotbed; the former method offers the least trouble to amateurs. They need good turf loam, and potting must be firm. When the plant is about 10 inches high the point is pinched out to cause side shoots to develop, and these in their turn will again be "stopped" for the production of further growths upon which male and female flowers will form. To obtain a crop of fruit it is necessary to take a male flower, remove the petals, and place it upon the stigma of the female flower. As many female flowers as possible should be pollenised at the same time, for the fruits that set first usually develop at the expense of those that set later; the result is that one or two large fruits and several other smaller ones are obtained, instead of fruits of uniform size. While the plants are in bloom air ought to be admitted freely; when the fruits are seen to be increasing in size a warmer temperature may be maintained.

The best compost for Cucumbers consists of loam and leaf-mould in about equal quantities. They need somewhat similar treatment to Melons, so far as stopping is concerned, the object being to get the trellis full of growths which will produce blossom and, in due course, fruits.

Strawberries in pots should be given air freely while they are in bloom so that the "set" of fruits may be satisfactory. The pots are full of roots, and watering must be attended to with care; if the soil is allowed to get dry the fruits are not likely to form freely.

In the Kitchen Garden

The amateur who has no glasshouse or frame must regard this as the chief month for making preparations for

a supply of main crop vegetables. If the land was dug and manured during autumn and winter, as the plots became vacant, it will crumble to a fine tilth as the month progresses, and sowing may be carried out with convenience. It is, however, unwise to sow seeds in sodden and lumpy ground. It is better to wait until it has dried somewhat; no time will really be lost, for seeds will not vegetate in cold, wet soil. If the land has been thrown up roughly, or in the form of ridges for the winter, it ought now to be levelled and as fine a surface as possible obtained.

Spring Cabbage.—This is greatly appreciated, and a little attention given now is followed by good results. Weeds ought to be destroyed, and if the ground is fairly dry the soil between the rows should be hoed. A slight scattering of nitrate of soda may be sprinkled among the plants and hoed beneath the soil.

Seakale, the roots of which were selected in autumn and have since been stored in soil in a cool, frost-proof place, may be planted now on deeply cultivated ground. They are put about 18 inches apart, the tops just beneath the surface, all shoots except the strongest first being removed. It is wise to sprinkle soot and lime around them to keep off slugs.

Early Potatoes may be planted on a warm border, the tubers about 12 inches apart in rows from 15-18 inches from each other. On heavy ground it is best to put light, leafy soil immediately beneath the tubers, which ought to have been sprouted in boxes as already explained. Remove all except two of the sprouts. May Queen and Midlothian Early are suitable varieties.

If it is intended to grow Celery it is as well to prepare the trenches; they ought to be about 12 inches deep, rotted manure being dug in, for Celery needs rich and retentive soil. If each trench is 2 feet wide it will accommodate two rows of plants. On the ridges between the trenches—these ought to be 4 or 5 feet apart—it is

possible to grow various vegetables, such, for example, as Lettuce, dwarf early Peas, Radish, Spinach, etc., all of which will be ready to gather before it becomes necessary to earth up the Celery. If the finest Leeks are wanted, trenches should be prepared for them in the same way, though for general purposes this is not necessary. Those who wish to have Brussels Sprouts in autumn should sow seeds now in the greenhouse or frame. Dwarf Gem is a good early variety.

Egg Plant, or Aubergine.—This is comparatively rarely grown by amateurs, yet those who care for the fruits ought certainly to sow a few seeds, for the plants are as easily cultivated as Tomatoes. The seeds are sown in a box of light soil in the greenhouse ; when the seedlings are large enough to handle conveniently they are potted singly in small pots, and subsequently repotted into those 6 inches or 7 inches wide, in which they will bear fruits. It is preferable to grow them altogether in the greenhouse, though they also succeed out of doors in a favourable summer.

Seeds of Tomatoes ought now to be sown ; they germinate readily in pots or boxes filled with light soil and placed in the greenhouse. The seedlings are potted singly in small pots, subsequently into those 5 inches wide, and finally, late in May or early June, are placed in larger pots, in which they will fruit. Pots 9 or 10 inches wide are commonly used. Both Tomato and Egg plant must be given perfectly cool treatment throughout the summer. It is necessary to use good turfy loam, with which a little leaf soil and rotted manure are mixed, and potting must be firm. Careful watering is required until the pots are full of roots. Of the numerous varieties of Tomatoes one might well choose for growing under glass Frogmore Selected, Moneymaker, Sunrise or Ideal.

An early crop of Vegetable Marrows is obtained by sowing seeds now under glass, repotting the seedlings as becomes necessary, and finally in pots 10 inches wide ; or

in April they may be planted in soil on a hotbed in a frame. If the plants are grown in pots it is not necessary to pinch out the point of the stem, though this should be done to encourage the growth of side shoots if the Marrows are planted in a frame. Moore's Cream is an excellent variety.

Potato Planting ought, if possible, to be completed by the end of the month, though on wet and heavy ground it is advisable to wait until early April. Potatoes that will be ready for digging in late June or July are Sharpe's Express, Harbinger and Midlothian Early, while others that will be available in August are Snowdrop, British Queen, Satisfaction and Windsor Castle. Those who wish to have later sorts may choose from The Factor, The Chapman and The Langworthy. The best way of planting when small quantities are grown is to draw drills 6 inches deep. When large areas are planted the work is done by means of a dibber. The rows of early sorts ought to be about 15 inches apart, of mid-season varieties 20 inches, and of late sorts about 30 inches from each other. The tubers of early Potatoes are put about 12 inches, and later sorts about 15 inches apart.

Sowing Peas.—Peas should be sown in quantity this month. It is possible, by choosing different varieties, and by making successive sowings, to have green Peas throughout a long season. Nothing is gained by sowing before the ground is fairly dry. Drills 2 inches deep are drawn, and the seeds are sown thinly in these. The distance to be allowed between the rows depends upon the height of the varieties; if, for example, the Peas grow 4 feet high the rows ought to be not less than 5 feet apart. Among early Peas The Pilot and Gradus are excellent tall varieties, while William Hurst and Little Marvel are good dwarf sorts. To yield a succession choose The Daisy, of low growth, and from Duke of York and Eureka among taller sorts. For the main crop one cannot do better than grow Glory of Devon, Telephone and Stratagem. Of late

Peas probably the best is Gladstone or Autocrat. By sowing at intervals from late March until May a continuous supply of Peas is obtained if such varieties are sown as those named above.

Seeds of Celery are sown in boxes of light soil in a greenhouse, the seedlings being planted in a bed of soil in a frame, preparatory to being put out of doors in trenches. Aldenham Pink and Solid White are good varieties. Late in the month the main crop of Carrots may be sown. For this and other root crops ground should be chosen that has not been manured recently. On deep soil may be grown the long-rooted kinds, choosing the variety St. Valery; on light soil the Stump-rooted Carrots are best, and of these a reliable variety is Early Gem.

Sowing Onions.—Seed of main crop Onions is sown about the middle of the month. The ground needs careful preparation beforehand. It ought to have been deeply dug and manured, and must be made firm by treading. Drills about 1 inch deep and 12 inches apart are drawn, and in these soot is sprinkled freely, while wood ashes may also be mixed in with advantage. The seedlings must be thinned so that they are from 4 to 6 inches apart finally. The Onion fly often plays sad havoc with Onions sown out of doors. Its attacks may be lessened by sowing in thoroughly firm ground, and by the use of soot. A good selection of Ailsa Craig should be chosen, or Premier is an excellent sort. Instead of growing Onions from seed, sets, which are really like miniature Onions, may be planted in the same way as Shallots. They are pressed in the ground firmly, but are not covered.

Seeds of Leek may now be sown out of doors on a sheltered border of which the surface has been made fine. Broad Beans that were raised under glass should be planted out towards the end of the month. A fresh lot may be sown; the seeds are placed 4 inches apart in double lines, the sets of rows being about 20 inches from each other. More seeds of Cauliflower should be sown

under glass if a succession is required. Those from seed sown in autumn need hardening off before being planted out of doors next month. Autumn-sown Onions need transplanting now; they are put 5 or 6 inches apart in rows 12 inches from each other. Perpetual Spinach, or Spinach Beet, is a useful vegetable to sow now out of doors.

APRIL

Making Ready for Summer

DURING the autumn and early winter months there often comes the temptation to defer gardening work, especially that of planting, until spring. It may be carried out far more pleasantly under present conditions, but what of the result? Gardening is no doubt, to some considerable extent, an inexact science, for different methods, varying according to local circumstances and conditions, produce equally good results. Moreover, plants are always ready to make a good fight for life, and if matters are not altogether against them they generally succeed. With the advent of April comes the parting of the ways; either one must complete the planting of hardy border plants at once or for a whole summer be faced with the dire effects of procrastination. If April prove a dry month, plants put in late have little chance, for they are forced to produce puny leaves and stunted stems before the roots have established themselves. Let planting, then, be completed. It is more essential than ever at this season to disturb a considerable area of ground before putting in a plant, so that its roots may be able to spread in search of food supplies as quickly as possible. To dig a small hole and to cramp the roots in this is certain to be followed by disappointing results. Plants that may legitimately be put out in April are Michaelmas Daisies and other autumn kinds — Chrysanthemums, Pentstemons, Lily bulbs, Evergreens of all sorts, and Roses from pots; only a qualified success can be expected from early summer kinds that

are planted now. Some plants greatly dislike being disturbed, and show their resentment by refusing to flower for a year or two; Irises, Paeonies, Oriental Poppies, Japanese Anemones, climbing Roses and Christmas Roses are some of those especially liable to take offence.

Among the Hardy Flowers

Increasing the Violet.—April is the month in which to prepare for another Violet season. The method of propagation most commonly practised is by division of the old clumps; only "crowns" or young pieces that are well rooted should be chosen for replanting, the old portions that have become hard being discarded; the former are set out at about 10 inches apart on a prepared bed of soil. Violets have an especial liking for leaf soil, and this should be dug in freely, together with decayed manure, if the land is light. There are many opinions as to the best position for a bed of Violets, but everyone agrees that too much warmth, as provided, for instance, by a border at the foot of a wall facing south, is detrimental. They are often grown in the open garden, but more frequently on a partially-shaded border facing west. During the summer months the chief details of management are to remove all runners, to hoe frequently between the plants, to supply water as becomes necessary, and, last, but most important of all, to syringe the Violets freely and frequently during hot weather to prevent attacks by that injurious little insect, the red spider. If unfortunately this pest appears, a remedy that has proved reliable is to syringe the leaves, and particularly the lower surface, with salt water, a tablespoonful of salt dissolved in a gallon of water.

As to varieties they are numerous in both double and single flowers. Favourites among the larger blossomed single kinds are Princess of Wales, La France and California, and among the smaller ones Amiral Avellan, of reddish shade; Rose Perle, rose with white centre; and

Sulphurea, of pale yellow colouring. Of the doubles the best are Marie Louise, Lady Hume Campbell, Comte de Brazza, and Neapolitan.

Flowering Shrubs of Spring.—During the past ten days the pageant of flowers has made great progress; trees, shrubs and alpines now combine to render the well-stocked garden a place of untold delight. Happy is the garden in which spring-flowering shrubs are well represented. The graceful shoots of Berberis stenophylla are wreathed in golden blossom, and the sturdier stems of Berberis Darwini are not less freely covered with their orange-coloured blooms, while the old Mahonia, too, is quite gay with its bunches of pale yellow flowers. The deciduous Magnolias (conspicua, soulangeana, and obovata) are giant bushes laden with wonderful flower cups, white or stained with rose red. The Tree Heaths, Erica Veitchii and arborea, where thickly planted, form a miniature forest of dainty leaf and abundant white blossom, and groups of the red Mediterranean Heath show finely when massed near by. The ornamental Cherries, the Crabs, the Plums and Peaches—all are smothered in blossom, and as seen at the height of their exquisite display, it seems as though one could not plant them too freely.

Most alluring of all garden trees is, I think, the double-flowered Peach; its blossoms are a most fascinating shade of deep rose, and their glowing colour among the greens of other trees attracts attention from afar. The Siberian Crab (Pyrus baccata) is as lavish as any in its display of bloom, and a grown tree is a most attractive sight. The Japanese Cherry (Prunus pseudocerasus) and its variety J. H. Veitch are two splendid small trees, now laden with bunches of big pink bloom. Pyrus floribunda blossoms with remarkable freedom; the rounded trees are laden with their dainty pink flowers.

Those gardens in which spring-flowering trees and shrubs are not freely grouped miss some of the most

enjoyable moments of the garden year, for no other season compares in the fullness of its delight with that of April and early May. All, even the most plebeian of trees, are lovely now; each is characteristic in the way in which it dons its coat of green. Some garb hurriedly, as though fearful of what spring has in store, others leisurely, as though trustful of the quick coming of summer, and content to be awakened gently to full fresh life. In this expression of their varying mood they add immensely to the fascination of the garden in spring. Here show the pale green of the Japanese Maple and the ruddy tone of its red-leaved variety, sanguinea; there the dainty tracery of the Silver Birch, the sombre green of the Pine, and the full leafiness of the Horse-Chestnut; between them all the blushing blooms of the garden shrubs and the glow of the golden Gorse.

The Mountain Clematis. — Clematis montana is perhaps the most beautiful of all the members of this group of plants; it is certainly not excelled for profusion of bloom, and after the first season may be relied upon to make rapid growth. How often at this season of "tidying up the garden" does one see the shoots of this lovely climber trimmed and cut back for the sake of a neat appearance, yet the whole charm of the plant is lost unless the slender stems are allowed to depend and drape their support in a natural manner. Moreover, to cut them back now is to ruin the prospect of a successful show of bloom, for the flowers are produced from the old wood, and the proper time to prune, if pruning is necessary (though very little is needed as a rule), is as soon as the blossom is over. An attractive variety of this Clematis is called rubens, the flowers, instead of being white as in the type, being tinged with red. Ordinary well-drained loamy soil, with which lime rubble is mixed, suits the Clematis.

Rock Garden Flowers.—There are no more delightful plants at present in bloom in the rock garden than the

Mossy Saxifrages. They form wide, spreading tufts of exquisite green moss-like leafage in well-drained soil and a fairly cool spot, and at this time of year are spangled with their dainty blossoms in many shades of colour. One of my happiest colour schemes at the moment consists of the white mossy Saxifraga Wallacei and the crimson one called bathoniensis. This is, I think, the finest of all the red kinds. The flowers on first opening are really vivid crimson, though they become lighter in colour after a few days. Saxifraga Wallacei blooms most profusely, but it has not the close, tufted growth of some of the other kinds. Another Mossy Saxifrage that becomes quite smothered in white blossom is called exarata. Probably the neatest of all, for it covers the ground like a cushion of moss, is the variety Kingii; it does not, however, bloom very freely, but its attractive appearance throughout the winter is ample compensation. One of the daintiest of all is muscoides atropurpurea; this makes a close moss-like tuft and bears a profusion of brilliant red flowers.

I suppose every rock garden possesses that beautiful little Grecian Pansy, Viola gracilis, of which the intense purple blooms are now fully out, and will help to keep the rockery gay for weeks. It blooms freely and continuously for a long time and is quite easy to grow. Would that someone could tell us how to make that incomparable Gentian (Gentiana acaulis) blossom. I have several plants of it that grow well enough, but do not bloom. At Kew they have no success with it; yet at Madresfield Court one sees it as a wide edging to walks and drives, as free and contented as the double white Arabis. But we shall never solve the likes and dislikes of all the plants we grow; even the common Arabis, judging from my own experience and that of many correspondents, sometimes has the sulks and shows scarcely a flower. Yet at other times it is as gay as we expect it to be, and who knows the reason why? This is a

plant that thrives the better the more drastically you treat it, so when the blossoms are past cut it hard back; it will soon grow freely enough again, and probably bloom all the better next year.

A Little Bog Garden that was made at the foot of a fence facing north a year or two ago gets more gay every day. The showy little Primulas frondosa and rosea and the taller cortusoides are in brilliant bloom; Primula japonica is lusty of leaf and getting ready to send up stout flower stems, and hardy Cypripediums are peeping through the moist peat. I cannot imagine a more satisfactory way of dealing with a cool and shady spot than by making a little bog garden of it.

The Flame Flower.—The Flame Flower (Tropaeolum speciosum) is perhaps the most brilliant of all hardy climbing plants, but it is unfortunately one of the most difficult to grow in Southern gardens. In colder Northern counties one sees it draping cottage garden walls with its exquisite greenery and wonderful scarlet blossoms, apparently without any care on the part of the gardener. The finest specimen I have seen in the Southern counties was in a garden at Bath; it was planted on the north side of a tall yew hedge and had clambered through the latter to a height of many feet. The chief essentials to success appear to be coolness and a leafy soil. It is such an attractive plant that no trouble seems too great if one can induce it to thrive. Other flowers that one never remembers to have seen so fine in the South as in the cooler and moister conditions of Northern gardens are Phlox, Pentstemon, Viola and Sweet Pea. The mention of Phlox reminds one that it is not a difficult matter to increase the stock of this fine late-summer flower by making cuttings of the young growths when they are 4 or 5 inches long. If these are taken off and inserted in pots of sandy soil, kept in a closed and shady frame for a few weeks, they will form roots quickly.

Concerning Hedges.—When a hedge is successful it

is, like a lawn, very satisfying; similarly, when it becomes patchy it is an eyesore. The most popular hedge plants are evergreens, and they are generally more difficult to manage than deciduous shrubs; especially is this the case with Conifers. The most suitable months for planting the choicer evergreens are April and September. When evergreen hedges have become bare at the base or thin they should be cut back hard at the present time; with a season's growth before them there will be every chance of their making a good recovery. This advice refers to such as Holly, Yew, Laurel, Thuya, Cupressus, etc. It is a mistake to cut these hard in winter, as one often sees done, for the hedge remains bare and unsightly for months; moreover, some of the stems may die; but in April fresh growth commences at once. For a boundary hedge that will serve also as a fence there is probably nothing better than a mixture of Whitethorn and Beech: the plants should be cut down to 9 or 10 inches after planting, so that a good base may be formed.

Clipping Hedges.—There is no hedge to excel that of Holly, though it develops slowly. Nevertheless, if plants about 2 feet high are firmly planted now in good loamy soil and kept moist at the root they soon begin to make headway. It is important to prepare the ground by digging 2 or 3 feet deep and mixing in rotted manure not nearer the surface than 18 inches. The plants should be set about 15 inches apart. An established Holly hedge does not as a rule give much trouble, but if there are gaps now is the time to fill them and cut back the stems of such plants as are not satisfactory. Holly hedges may be clipped now if they seem to need it, though if clipping was carried out in late summer probably no further attention in this respect will be necessary.

Thuya gigantea is a good hedge plant; so, too, is Cupressus Lawsoniana. The leading shoots of these

A DELIGHTFUL CORNER—SUMMER HOUSE, PAVED PATH, ROCK AND WATER GARDEN

AN EDGING OF MOSSY SAXIFRAGE AND SNOW IN SUMMER CERASTIUM

A BUSH OF JAPANESE MAPLE IN AN IRISH GARDEN

shrubs need to be cut back each spring, otherwise the hedge is liable to get bare at the base, while ordinary clipping should be done now and again in August. The hedge then remains neat throughout the year. Cupressus macrocarpa and its variety lutea make fine hedges, especially in seaside gardens in mild districts. Yew is, of course, very slow, but it makes an ideal hedge, and none other looks so well.

Hedges of quick-growing deciduous shrubs, such as Privet and Thorn, may be clipped during summer as often as seems necessary; a final cutting in August will keep them neat until spring. Beech and Hornbeam are not likely to need clipping more than twice during the season. During the first few years they must be allowed to increase in height slowly, otherwise the base will get bare, and the top should be cut more closely than the base. Berberis stenophylla and Darwini make charming flowering hedges. It is important to attend to their pruning as soon as the flower display is over, but they do not need close clipping; old growths should be cut out, and others that destroy the symmetry of the hedge may be shortened. The Laurel is an especially useful shrub for massing by the side of a shady drive, where there is little likelihood of success with choicer things. If it is outgrowing the space allotted to it the present is the time to prune it within bounds. It is a mistake to use shears for the purpose, for the result is certain to be unsightly. It is far better to take a knife and cut out offending branches than to clip them as one would a hedge.

Transplanting Evergreens.—The planting and transplanting of deciduous trees and shrubs ought to be completed long before the middle of April, but this is the season to undertake similar work with evergreens, and especially Conifers. Such accommodating sorts as Laurel, Rhododendron and Berberis may be moved in autumn or even during winter in mild weather, but such

as Holly, Yew, Cupressus, Thuya and others need greater care, and either April or September is the best month in which to undertake their removal or to make a fresh plantation. I was asked the other day what was the matter with a hedge of Thuya that was planted last year; the plants showed no signs of making fresh growth, and the leaves at the ends of the branches were turning brown and the leading shoots were withering. It was really little wonder, for the shrubs were put in the ground in November, and they were then big plants, some 5 feet high. Of choice evergreens small plants invariably thrive better than big ones; those 2 to 3 feet high are most suitable for transplanting. Presuming the ground to have been deeply dug, the lower soil enriched with manure, and the shrubs made quite firm, subsequent care should be directed towards keeping both the roots and the top growth moist. If, as often happens at this season, the weather is hot and dry for a few weeks, the shrubs are apt to fail unless syringed twice daily and watered occasionally. A covering of manure on the soil above the roots tends to keep the latter moist. Should drying winds prevail, syringing becomes of even greater importance, and it is often worth while to erect a rough canvas screen for their protection until fresh growth gives evidence of the trees having become established.

Watering in Spring.—There will be many failures in the garden during the summer unless the question of watering receives attention now. Trees and plants against walls and fences and in narrow borders at the foot of them are almost certainly very dry at the roots, and they can scarcely receive too much water at the present time. Vigorous Roses and fruit trees especially should be looked to, or buds and small fruits may fall off in alarming numbers. Rockery plants, and particularly those growing in moraines, need an abundance of water at this their chief season of growth. It is, of

course, preferable to use soft water from tanks or tubs or alternatively hard water that has been exposed to the air for a few days; but beneficial though soft water may be its use is only practicable in quite small gardens, and recourse must be had to the hose. Growth is rapid at this time of year, and a check such as is occasioned by drought may make all the difference between success and failure. It is yet too early to apply quick-acting fertilisers; the best time to do this is as soon as flower buds or small fruits have formed.

Disbudding is an important item of garden work Superfluous shoots on Roses, i.e. those that are very weak, ill-placed, or too numerous, should be rubbed off; the stems of herbaceous plants, such as Delphinium, Phlox, etc., ought to be thinned out, leaving only a dozen, more or less, on each clump.

The First Rose Pests.—No sooner have we put the Rose garden in order, and prepared for quiet moments in which to indulge in anticipation of the delightful time that is coming, than we are called upon to take reprisals against the first of a whole army of pests that are waiting an opportunity of bringing to naught our most cherished hopes. Already those wretched grubs of the winter moth have begun to ruin the leaves of the most precocious shoots and to eat out the heart of tiny buds. Many may be killed by hand, though it is necessary to look over the bushes each day; this is rather a tedious method, yet it is probably the most efficacious of all, for one makes sure that those found will do no further damage. An alternative is to spray with some poisonous compound, and so poison the food of the grubs. Arsenate of lead is the best substance to employ, and it may be conveniently obtained in paste form. Otherwise the mixture, as recommended by the National Rose Society, may be used: Arsenate of soda, 1 oz., acetate of lead, $2\frac{3}{4}$ oz., water, 10 gallons. The two substances are first dissolved in a small quantity of water, the full amount being

added subsequently. The solution should be syringed on the plants as a fine spray.

Garden Walks.—An unsatisfactory walk detracts considerably from the pleasure of the garden, whether, owing to the fact that it is badly drained, pools of water lie in the hollows, or, owing to a neglected surface, the gravel has become covered with weeds or moss. The season has passed for remaking the walk and ensuring thorough drainage, yet much may be done to render the surface attractive during summer. Simplest of all expedients is to fork it over lightly to the depth of an inch or two, picking out all weeds as the work proceeds, and finally to roll until it is again firm. Although so simple, the adoption of this method improves the appearance of the walk, providing there is a fair depth of gravel. The gravel is cleaner and brighter and is readily rolled to a firm surface. If such a proceeding is not practicable the use of salt or weed-killer is recommended for cleansing weedy walks; they should be applied in dry weather.

Home-made Weed-killer.—The following is a recipe for a home-made weed-killer. Place ¼ lb. of white arsenic and a similar amount of caustic soda in 1 gallon of water and boil until the liquid is clear. Then pour the poisonous solution into bottles and cork them tightly. For use pour a small cupful in a gallon of water. In applying this and other weed-killers care is necessary to ensure that they do not touch grass verges or plant edgings.

There is probably no path so delightful and so useful as one formed of flags or paving-stones, especially when crevices are left here and there among the stones in which to insert low-growing plants, preferably those having fragrant leaves such as the Thymes and Mints. To ensure the success of these the soil should be forked up lightly—leaf soil and sand being mixed in—and again made firm. It is a good plan to lay the stones on a layer

of sand, so that a level surface may be obtained and for the sake of the plants also.

Planting Sweet Peas.—Seedlings raised under glass early in spring ought now to be planted out of doors, either in clumps or rows, as the fancy of the gardener may dictate. Clumps perhaps look best and are most convenient because one can find room for them more easily than for a row. The plants should not be closer together than 5 or 6 inches; many who give them special cultivation put them 12 inches apart. It is wise to place small twiggy sticks round about the seedlings as soon as they are planted, not only as a means of support, but as a measure of protection against cold winds and birds. Sweet Peas thrive only on deeply dug and manured ground, but it is a mistake to manure the land excessively when they are grown for garden decoration only. The finest flowers are obtained by restricting the growth of the plants to one or two stems, and by removing all side shoots as they appear, but the average flower lover is content to let them grow as they will. A prolonged display can be expected only if the flowers are gathered regularly to prevent the formation of seed pods.

Half-hardy Annuals in great variety may be sown out of doors as soon as the soil is dry enough to bring to a fine tilth with fork and rake. The pruning of Tea Roses ought to be carried out, all dead and useless shoots first being removed and the remaining ones shortened by about half, unless, as is not unlikely, they have died back to that extent. The frequent use of the hoe will do much good by aerating and loosening the surface soil and so helping to promote a healthy growth. Hardy flowers of many kinds may be raised from seed sown in boxes in a frame or even out of doors if the ground is sufficiently dry to be brought to a fine tilth.

Items of Garden Work.—If seeds of Border Carnations are sown now they will produce giant clumps for

next year's blossoming; sow in pots or boxes of sifted sandy soil, placed in a greenhouse or cold frame. Pinks, too, in great variety may be similarly raised from seed. Gladioli, some Lilies and Montbretias may still be put in the outdoor borders; so, too, may Hyacinthus candicans, the Cape Hyacinth; they will be most welcome in late summer. Seeds of Zinnia, Stocks and Asters, Kochia, Phlox Drummondi, and other half-hardy annuals ought to be sown in a frame.

The lawn should be mown and well rolled, grass seed being sown in bare places, or fresh turf laid down. Some rock garden plants are often in need of a top-dressing of gritty soil at this season, owing to the heavy rains of winter having washed the earth away from them.

In the Greenhouse

Bulbs and Spring Plants after Flowering. — A common practice in dealing with bulbs after they have flowered is to neglect them, to allow them to become dry at the roots, thus hastening the decay of the leaves, and incidentally depriving the bulbs of nourishment just when they most need it. When the flowers of Freesia and Lachenalia are over the soil should be kept moist until the leaves begin to turn yellow; moreover, they should be watered occasionally with liquid manure made from yard manure or one of the many patent fertilisers to be obtained. Such treatment is of the greatest assistance in building up good bulbs for next year's flowering. Cyclamen will soon be going out of bloom, so too will Chinese Primulas; it is the custom with many gardeners to discard the old roots of both these plants after the first blossoming, but this is a great mistake if an abundance of bloom rather than size and quality is the chief desideratum. Especially is this true of Cyclamen; one may preserve the corms (as the roots are technically termed) for

years with practically no trouble, and each season they yield a profusion of blossom. Chinese Primroses may be repotted in larger flower-pots after they have bloomed, and if grown in a cool frame throughout the summer months, all flower stems being picked off, they will produce a splendid display next year. The bulbs of Daffodils that have been forced should not be thrown away; if kept moist at the roots and placed in a cold frame for a few weeks they may be planted out of doors wherever room can be found for them. They will increase and blossom freely in future years. So too will Scillas, Crocuses, Snowdrops and Grape Hyacinths.

Cuttings should be taken of winter-flowering plants for the greenhouse, e.g. Begonias Gloire de Lorraine and Gloire de Sceaux, Poinsettia, Coleus thyrsoideus, Eranthemum and Geranium.

A troublesome pest that will soon be making its appearance is the grub of the leaf-mining maggot, that renders the leaves of Chrysanthemum, Marguerite and Cineraria so unsightly and in fact ruins them. The use of a fumigant called Autoshreds will get rid of the pest on plants under glass. Chrysanthemums that are out of doors should be sprayed frequently with tar water during the next few weeks in the hope that the eggs that give rise to the grubs will not be laid on the leaves.

Auricula.—As soon as the offsets or side growths on the older plants are of fair size they should be taken off and repotted, either singly in small pots, or several round the edge of a larger pot. They ought to be kept in a cool frame, little air being given for a week or two. Auriculas generally should be repotted as soon as the flowers have faded, if repotting is necessary; it is, however, a mistake to use large pots, those 4 inches wide are usually large enough. If all, or most, of the old soil is shaken off the roots, the necessity for using large pots is obviated. The compost needs to be prepared with care,

and the following ingredients are recommended: turf loam to form the bulk, leaf mould and sand each being added in the proportion of one to four of loam. Pieces of broken charcoal, too, should be mixed with the compost. Very careful watering is required for a time, and the frame must be kept closed during the greater part of the day for a week or two. During summer Auriculas thrive best in a frame facing north and in winter in a frame or greenhouse facing south. They require to be kept perfectly cool throughout the year and during winter need little water at the roots.

In the Fruit Garden

The Codlin Moth.—Much may now be done to eradicate the caterpillars of the Codlin Moth by syringing the Apple trees with arsenate of lead solution. It must be so directed as to fall in a fine spray on the tops or "eyes" of the embryo fruits as soon as the petals have dropped; it is chiefly there that the grubs hatch out and then commence to eat their way through the fruit.

The Black Currant Mite is one of the most destructive pests of fruit bushes, and its presence is easily detected by the presence of swollen buds, which are rendered worthless by the mite inside them. The mites are so small as to be invisible to the naked eye. At this season they commence to migrate, and can now be attacked most usefully. The most likely remedy is slaked lime and sulphur sprinkled on the bushes, or it may be used in the form of a liquid spray. This treatment should be continued at intervals of ten days throughout April and May. Further, it is necessary to cut off at pruning time shoots that are badly affected and burn them.

Peach trees out of doors will need attention in the matter of disbudding; the process is exactly the same as has already been explained in connection with Peach trees under glass. A disease that may soon be expected

to show upon Peach and Nectarine trees out of doors is called Peach-leaf blister; it raises ugly reddish or greenish-red blisters on the leaves, severely weakening the growth of the trees, and, if not treated, is likely sooner or later to destroy them. When a tree is badly attacked it is a difficult matter to arrest the disease. Leaves that are much diseased ought to be cut off and burnt, and the trees should be sprayed with Bordeaux Mixture after the crop is set. A preparation called Medeola is said to effect a cure.

The Gooseberry Sawfly.—The larvae of the Gooseberry sawfly are fearfully destructive in some gardens and ruin the leaves unless preventive measures are taken in good time. Various substances are recommended for dusting on the bushes at this season, such as lime, soot, or hellebore powder, with the object of preventing the deposition of eggs by the flies; these substances should be used while the bushes are moist. Spraying with paraffin emulsion is recommended for the destruction of the larvae.

Fruit Trees under Glass.—The secrets of success in the cultivation of fruits under glass are to maintain an equable temperature, especially in spring when the shoots are tender, to admit air as freely as possible when the trees are in bloom, to keep the border moist though not saturated, and to make no attempt to force the development of the fruits until the "stoning" period has passed. When Grapes are as large as small marbles and Peaches and Nectarines the size of Walnuts they do not apparently increase in size for several weeks, and during that period they need unusual care in the matter of ventilation and heating. An average temperature of 55° or 60° is suitable. Strawberries in pots must have a light and airy position near the glass so that the fruits may ripen thoroughly. Tomatoes should now be potted in 5-inch pots, using good turfy soil. Seeds of Melon, Cucumber, and Vegetable Marrow are sown singly in small pots.

In the Kitchen Garden

Among the most important crops to sow this month are the various winter Greens, such, for example, as Brussels Sprouts, Borecole or Kale, Savoy, Cabbage and Sprouting Broccoli. They may either be sown in drills or broadcast on a border of which the surface soil has been broken up. Broccoli for winter use is sown now, the variety Christmas White being suitable. Onions and Leeks that were raised under glass in early spring ought now to be planted out. The finest Leeks are obtained by planting in a trench as for Celery, but an alternative method is to make deep holes, about 2 inches wide, and to put the seedlings in these, the tops of the leaves being on a level with the ground surface. As the plants grow the stems will fill the holes and become blanched without further trouble on the grower's part.

Asparagus.—Now is the time to plant and sow Asparagus. This vegetable is grown on a raised bed 6 feet wide, which accommodates three rows of plants. If it is intended to cut the produce during the first summer, three-year-old plants must be put in. The roots are placed 10 or 12 inches apart. Seeds are sown thinly in drills drawn longitudinally down the bed. The seedlings must be thinned finally to 10 or 12 inches apart. Cutting ought not to take place until the third summer. Established beds may be given a sprinkling of salt now with advantage, or a light top-dressing of rich soil.

Cucumber and Marrow.—Seeds of Cucumber ought to be sown singly in small pots plunged in a hotbed in frame or greenhouse. When the seedlings are well rooted in small pots they are planted in small mounds of soil on the hotbed. The Cucumber needs a compost of half loam and half leaf soil; small mounds only should be made, and as the roots show through further compost is added from time to time. Every Day is an excellent Cucumber. Seeds of Vegetable Marrow are now sown in pots of soil in a frame or greenhouse. It is not necessary to put Vege-

table Marrows on a heap of manure or extremely rich soil as so many do. Excellent and more useful fruits are often obtained by planting on a mound of ordinary soil.

Seedlings of Cauliflower raised in autumn, and of Onion, Leek and early Peas raised in spring, may now be planted out of doors. Sow Peas for successive crops. If the main crop of Carrots has not yet been sown it should be done without delay. Unless precautions are taken to keep away slugs by sprinkling the soil with soot and lime many seedlings will be lost. The soil between the rows should be kept loose by hoeing. Seedlings of Celery raised last month are now ready to transplant on a bed of rich soil in a frame. If placed about 4 inches apart they will make sturdy plants for putting in trenches later on. For a week or so the frame must be kept closed during the greater part of the day, but afterwards air ought to be admitted freely.

Lettuce, both Cos and Cabbage varieties, may be sown now out of doors, in drills 10 or 12 inches apart. The seedlings must be thinned until eventually they are 8 or 9 inches apart. It is best from this time onwards to sow Lettuce where it is to remain; transplanted seedlings are liable to run to seed. Sow seeds of Cauliflower Autumn Giant on a warm border to provide a succession to those planted out from an autumn sowing. Sow Spinach Beetroot in drills 15 inches apart, thinning the seedlings to 7 or 8 inches from each other. To provide spring Broccoli sow seeds of Snow White or Methven's June, and transplant the seedlings before planting permanently. Parsley and Radish seed should be sown as required, taking care to thin the seedlings properly. If an early crop of Runner or French Beans is required seeds may be sown in boxes in a frame, the seedlings to be planted out of doors next month.

MAY

Lilac Time

MAY is the month of Bluebells and Tulips, Lilac and Thorn, Golden Chain and Rhododendron, of Poppy, Paeony and Iris. There is not the full flush of beauty and colour that comes with the later days, with June and early July, but the plants seem possessed of the joy of hope and the vigour of youth; there is no suggestion of middle age in their lustiness, no semblance of decay. The trees and shrubs still show their characteristic leaf tints that later become merged in the green monotone of summer, and the fading spring blossoms are scarce noticed among innumerable others that are progressing to greater beauty. It is Lilac time and Bluebell time, the time of May and Fleur-de-lis; the garden is a sanctuary, a place of perfect peace, of frail and fragrant loveliness.

Among the Hardy Flowers

The Rhododendron stands pre-eminent, even among the hardy flowers of May, and ranks as the noblest of evergreen flowering trees hardy in the British Isles. It used to be said that a peaty soil was essential to its successful cultivation, but fortunately it will thrive just as well in loam. Rhododendrons prefer a somewhat sheltered spot; in an exposed position the blossoms are liable to be caught by late frost. Nothing benefits them more than a mulch or top-dressing of decayed leaves or manure in spring. Generally the bushes need little pruning, though it is wise to remove the faded flowers to prevent the formation of seed pods. If, however, a bush is becoming unshapely, the branches

that destroy its symmetry should be shortened sufficiently to restore a proper balance as soon as the flowers have faded. If really severe pruning is thought necessary, it should be undertaken in March, so that the season of growth may be as long as possible; one season's crop of blossom is then sacrificed. A few remarkably fine sorts are Pink Pearl, pink; Broughtoni, rose-red; Catawbiense, mauve; Charles Dickens, bright red; Gomer Waterer, almost white; Lady Clementina Mitford, peach shade; Lord Palmerston, rose-red; Mrs. E. C. Stirling, pale pink; Sappho, white with dark blotches; Vauban, mauve with yellow blotches; and John Waterer, crimson.

The Lilac.—Although Syringa is the correct botanical name of Lilac, it is used by most amateurs to refer to the Mock Orange, which is really Philadelphus. There is no greater favourite among flowering shrubs than Lilac; the fragrant blossomed bushes are one of the chief glories of an English garden in May. The complaint is often made that Lilacs do not blossom satisfactorily, and the cause may usually be traced to incorrect pruning, or to neglect of pruning altogether. The proper time to carry out this task is when the flowers have faded; sucker growths, those that develop from the ground level, must be removed, and old and weakly branches should be cut out. It is only by keeping the stems fairly thinly disposed that a satisfactory blossoming is obtained. Trees which have been allowed to become a tangle of weak shoots will need drastic treatment, but if correct treatment is practised from the first most of the necessary pruning may be done by means of disbudding in early summer. Shoots that are ill placed, or for which there is not sufficient space, ought to be rubbed off while small; thus the remaining branches will have all the better chance of developing and maturing. It is best to obtain plants that have been raised from layers; they are usually healthier and longer lived

than those that have been grafted. There are many named varieties of Lilac, of which the following are a few of the best: Abel Carrière, purplish blue, and Mère Micheli, lilac, both doubles. Of single-flowered sorts there are Charles X, reddish; Marie le Graye, white; Souvenir de Louis Spath, reddish, and alba grandiflora, white. The Persian Lilac, a small bush of slender, graceful growth and bearing lilac-coloured, fragrant flowers, is particularly attractive.

The Brooms are very beautiful in May, and few shrubs flower more profusely. They thrive best in light or at least well-drained soil. It is necessary to put out small plants grown in pots, for they are difficult to transplant successfully from the open ground even when small, and more difficult still when of fair size. Once planted they should be left undisturbed. It is only during the early life of these shrubs that pruning can be attempted, for if one cuts back into the old branches they are not likely to start into fresh growth. While the shoots are young they can be cut back safely, with the object of forming shapely bushes. Two of the most attractive are the white Broom (Cytisus albus) and the Primrose Broom (Cytisus praecox), while others equally popular are the common Broom (C. scoparius) and its variety andreanus, which has handsome blooms in crimson and yellow. Among the trailing kinds, suitable for planting on ledges in the rock garden, are C. kewensis, cream coloured, and C. Ardoini, with yellow flowers. The purple-flowered Broom is quite distinct from the others named; it produces fresh shoots every year from the root stock, and when the flower display is over the old shoots may be cut out to allow fresh ones to develop.

Laburnum, or Golden Chain.—Few shrubs have greater charm than the Laburnum, or Golden Chain; it is without rival in beauty when laden with its handsome tresses of bloom. Although the common kind,

Laburnum vulgare, is usually planted, there are one or two others to which attention may worthily be drawn. One called Parksii has remarkable flower bunches from 12 to 15 inches in length, while the Scotch Laburnum, too, is handsome, and rather earlier than the common kind. An extraordinary Laburnum is that known as Adami; it is not a true Laburnum, but a graft hybrid between Laburnum and purple Broom, and resulted after the Broom had been grafted upon the Laburnum. The tree bears some flowers like the Laburnum, some like the Broom, and still others which are intermediate between the two. The Laburnum requires no regular pruning, though at this season old and weakly shoots may be cut out, if that is deemed necessary. The tree is readily raised from seed sown as soon as ripe; in fact, self-sown seedlings are often common.

Another attractive and popular flowering shrub in May is the Judas Tree (Cercis siliquastrum); it bears small rose-red blooms, not only on the younger shoots but even on the oldest branches, and sometimes on the stem.

The Mexican Orange Blossom (Choisya ternata) is a beautiful evergreen, now laden with its bunches of fragrant white flowers; in mild districts it may be grown as a bush in the open, but in other places needs the protection of a wall.

The Mock Orange, or Philadelphus, which many people still call Syringa (really the correct botanical title of Lilac), is an indispensable flowering shrub of June, and among the easiest of all to grow. It thrives in ordinary soil, and all the pruning required is to cut out a few of the oldest shoots, if that should seem necessary, as soon as the flowers are over. The blossoms are produced with the greatest profusion upon shoots of the previous year. Such cross-bred sorts as Lemoinei, Avalanche, Boule d'Argent, and Rosace give the best results if the shoots that have flowered are cut

back to vigorous young growths as soon as the blossoms have faded.

The Ceanothus, or Mountain Sweet, is a group of blue-flowered shrubs not at all commonly planted by amateurs, yet it contains many charming sorts which flower in spring and late summer. The early-flowering sorts are the least hardy, and therefore need the shelter of a wall to be seen at their best; among them are Veitchianus, thyrsiflorus, griseus, papillosus and rigidus, all having blossoms of some shade of blue. The time to prune these is as soon as the flowers have faded; side growths are then shortened to within 2 inches or so of the base, and worthless shoots or those for which there is no room are cut out. Of the Ceanothus that bloom in late summer, most valuable for the amateur are the varieties of C. azureus, such, for example, as Gloire de Versailles and Indigo, blue; Ceres and Marie Simon, rose-coloured. The proper time to prune these is in spring, for they flower on the current year's growth, while the spring-flowering set blossom on shoots formed during the previous summer.

Staking Border Carnations is a work that needs careful attention; the flower stems usually begin to appear early, and it is necessary that they should be staked in good time. An important point is to make sure that the stakes are sufficiently long, for nothing is more annoying than to find the stakes overtopped by the stems before the plants are properly in bloom. The special coil stakes are no doubt most convenient, since tying is dispensed with; otherwise wooden stakes, preferably painted green, are used. Perhaps the best tying material is the green raffia tape; it should first be tied to the stake and then fastened loosely round the stem of the plant.

Hardy Flowers from Seed.—Seeds of all sorts of hardy flowers may still be sown, the choicer kinds in pots or boxes in a frame, and the remainder on a

prepared border out of doors. Such florist's flowers as Columbine, Snapdragon, Pansy and Viola are commonly raised from seed sown now, though in fact practically any and every border flower may be treated similarly. When the seedlings are large enough to transplant conveniently they should be put out at greater distances apart, there to remain until early autumn, when they will be planted in their permanent positions.

Spring-flowering Plants.—The flowers that made the beds and borders gay in spring are now past their best, and should be removed to make way for summer bloom. Such as Daisy, Polyanthus, Primrose, Viola and Aubrietia may be increased by dividing the plants and replanting the separate portions on a cool border; there they will remain until required for permanent planting in October. Such as Yellow Alyssum, Aubrietia and Arabis are easily increased by means of cuttings inserted in pots or boxes in a frame kept closed for a few weeks. All these, however, may be raised from seed, together with Wallflowers and Forget-me-nots. To increase the latter it is merely necessary to take up the old plants, put them out on a partially shaded border, and allow the seeds to fall; there will be an abundant crop of self-sown seedlings. Wallflowers ought to be sown without delay, so as to ensure sturdy plants for putting out in October. Seeds are sown in shallow drills on a cool border, the seedlings being subsequently transplanted at about 10 inches apart. At that time it is advisable to pinch off the end of the tap-root. Other popular flowers to raise from seed sown now are Canterbury Bells and Sweet Williams; they need similar treatment to that outlined for the other flowers mentioned.

Hardening off Bedding Plants.—In preparation for planting out of doors in early June all tender plants that are used for summer beds ought to be hardened off in frames, such, for example, as Dahlia, Fuchsia, Geranium,

Canna and others. In the absence of frames the plants may be put against a warm wall, and in case of frost protection can easily be given by means of mats supported by sticks.

Thinning Herbaceous Perennials.—Herbaceous perennials are now growing vigorously, and to obtain the best results it is necessary to reduce the number of shoots on each clump; this applies particularly to such as Delphinium, Helenium, Erigeron, Aconitum, Phlox and other strong-growing kinds. The plants ought also to be staked in good time, for if the stems are allowed to fall about, they become misshapen and remain so throughout the summer. The simplest plan of staking is to arrange a few stakes around the outside of each clump, and to support the stems with bands of string, each band being 8 inches or so above the other. Stakes should be chosen of such a height that when the plants are in bloom they will be practically hidden.

Quick-acting Fertilisers may now be applied to border plants and Roses with advantage; the patent preparations sold by nurserymen are most convenient generally for amateurs. Those who wish to make their own can do so by mixing phosphate of potash with nitrate of soda, in equal parts. One ounce dissolved in 2 gallons of water gives a solution of the correct strength; this may be applied once a week during May and June; alternatively, it may be scattered on the soil at the rate of 1 ounce to the square yard and hoed in. The best time to apply these fertilisers is after rain, or after watering has been done; it is a mistake to use them when the soil is dry. The surface soil is apt to become hard if sunshine follows after the garden has been watered, but this may be obviated if the hoe is applied freely the day following watering.

Insect Pests increase rapidly in the Rose garden and necessitate repressive measures. One of the most annoying is the leaf-rolling sawfly, because insecticides

are useless. This pest hides itself within the rolled edges of the leaves, and the only way to get rid of it is to cut off the affected leaves—a practice that cannot be pursued indefinitely without harm to the Roses — or to search for and destroy the grubs. The Rose-leaf hopper causes the foliage to become mottled with white specks; the result is not only to disfigure them but to weaken the plants. This insect is commonest on Roses grown against a wall. Both it and red spider seem to prefer warm and dry conditions, therefore spraying the trees forcibly and frequently with the hose is advantageous. Syringing with nicotine wash is the best remedy for the leaf hopper. Red spider may be got rid of by using a solution of salt, 1 tablespoonful dissolved in 1 gallon of water.

Cuckoo Spit, or Frog Hopper, is a common and well-known insect pest; the froth which surrounds the insect is easily dispersed by means of syringing; then the insect can be killed. The damage done by the leaf-cutting bee is very characteristic; circular portions are cut out of the leaves of Roses, and with these the bee builds its nest. In my experience the attacks are chiefly confined to Roses against a wall or fence, in which neighbourhood the nest is usually to be found. The way to get rid of this insect is to trace it to its nest and then to destroy the latter, which is frequently in a crevice of the wall or other convenient place.

One of the most destructive caterpillars that damage Rose leaves is that of a sawfly called the Rose emphytus; it eats large pieces out of the leaves and, in common with other leaf-eating caterpillars, renders them unsightly and weakens the plants. Hand picking and syringing with hellebore wash offer the best remedies.

Greenfly and Caterpillars. — Among insects that may now be expected to cause trouble, especially among Roses, are greenfly and various caterpillars.

The best way of dealing with the latter is to destroy as many as possible by hand picking, and to syringe the bushes with hellebore wash. This is made by mixing a little flour and hellebore powder together and dissolving them in water. There are all sorts of convenient remedies for getting rid of greenfly, though there is probably nothing better than Abol insecticide. A home-made remedy is obtained by boiling ½ lb. of quassia chips and ½ lb. of soft soap for two hours in 1 gallon of water; the solution is subsequently strained and diluted with 2 gallons of water and syringed on the plants.

Mildew may be expected to make its appearance on Roses towards the end of the month, and it is essential to take measures at once for its destruction. A simple remedy is to use sulphide of potassium (liver of sulphur), dissolving ½ oz. in 1 gallon of water and syringing the affected leaves. Cyllin soft soap, which is obtainable from chemists, also makes a suitable solution.

Water Lilies.—The presence of water adds greatly to the delight of a garden and affords the means of growing many beautiful plants that otherwise could scarcely be suited. Water Lilies (Nymphaeas) should be the first choice among water plants. The present is an excellent time to put them out. The best plan is first to plant each one in a small basket of loamy soil, to weight this with stones, and to sink it on a mound of soil at the bottom of the pond. Nymphaeas will not thrive in swiftly flowing, and therefore cold, water, but in pools, ponds, lakes, tanks, and even tubs, they are quite at home, and give much distinction and charm to the garden scene. Some varieties are more vigorous than others, and a large expanse of water is necessary for their accommodation. Among those suitable for small ponds and tubs are Laydekeri fulgens, rosea and lucida, pygmaea and helveola. Other delightful water plants are the native Bog Bean (Menyanthes), the Water Violet (Hottonia), and the flower-

ing Rush (Butomus), while for the boggy margin there is unlimited choice among the gorgeous Japanese and other Irises, the Japanese and Himalayan Primroses, the Mocca sin Flower (Cypripedium spectabile), Musk, Arum Lily, and Marsh Marigold, to mention only a few of the smaller plants that are suitable.

In the Greenhouse

This is a busy time in the greenhouse, for it is now that preparations must be made for ensuring a display of blossom in winter and early spring. In the first place, seedlings that were raised early in the year must be "pricked off" or repotted. At this season plants make rapid growth, and if they are allowed to remain in their flower-pots after having filled them with roots they will suffer a check which is bound to have a prejudicial influence.

Cineraria seeds should now be sown. There are two chief types of Cineraria, the ordinary florist's kind, of which the flowers are large and the plants comparatively low-growing, and the Star-flowered type, of which the plants are taller, branching, and bear smaller flowers in greater quantities. Chinese Primulas will be in full blossom in early spring from seed sown now; they, too, are readily divided into two distinct types. The Star-flowered varieties are more graceful than the ordinary kind, though their flowers lack the size and substance of the latter. The seeds of both Primula and Cineraria are sown thinly in pots or pans in finely sifted soil; a cold and shaded frame is the best place for them. When water is required it should be given by immersing the seed-pot to the rim in water, not by using a watering can.

Azaleas are favourite flowers in the amateur's greenhouse; many fail to induce them to blossom freely year after year, a failure that is no doubt due to incorrect

treatment after the flowers have faded. Dead blooms ought to be removed to prevent the formation of seeds, and any pruning that is necessary to preserve the symmetry of the bush should be done now. The plants must be encouraged to grow freely, and this is best accomplished by placing them in a warm, moist greenhouse for a month or so. About the middle of June they may be placed out of doors; there they remain until September, when they are brought into the greenhouse. If repotting is necessary, it should be done as soon as the flowers have faded; the best soil to use is peat, in which sand is mixed freely. Potting must be very firm, and a wooden rammer is required for the purpose. Azaleas need very careful watering; if allowed to get dry, or if water is given so frequently as to render the soil sodden, they soon become unhealthy.

The Herbaceous Calceolaria.—There are few more handsome flowers for the greenhouse in spring and early summer than the herbaceous Calceolaria; its requirements are simple, and there is no great difficulty in growing it, though some care and attention are needed. Now is the time to sow seeds; these are very small and must be sown thinly in pots or boxes of sifted soil. No covering is needed except that given by a slight scattering of sand. The seeds germinate best in a cool, shaded frame. When the seedlings are ready to transplant they should be put singly in small pots, and when well rooted should be given another shift into 4-inch wide pots. They will remain in those throughout the winter, and in early spring are finally placed in pots 7 or 8 inches in diameter. The Calceolaria needs perfectly cool treatment and shade from sunshine, together with careful watering. A temperature of 45° in winter is quite high enough.

Many of the little plants raised from seed or cuttings in spring, such as Primula, Perpetual Carnation, and others, must be transplanted or repotted as becomes

necessary. Those who grow garden flowers for winter and spring will find a frame essential for the accommodation of the plants during summer; there they are kept moderately cool and given such equable conditions of moisture and temperature as ensure satisfactory growth.

Chrysanthemums.—Plants that are grown for the production of large blooms should have been repotted as became necessary during spring, and by now ought to be in 6-inch flower-pots out of doors, after having been "hardened off" in frames. Usually in May, what is known as the "break" bud appears at the apex of the young plant and causes the latter to produce fresh shoots, three of which are generally left to form the principal branches. In August a bud will form in the apex of each of these branches or shoots; it is known as the first crown bud. Some varieties produce the best blooms from the first crown, others from the second crown bud. If it is decided to retain the first crown, all the little shoots that form below it must be rubbed off; this process is known as "taking" the bud. If, however, it is essential that a variety shall bloom from the second crown buds, the first crown buds are removed and one fresh shoot on each branch is allowed to continue its development. These will subsequently bear second crown buds, and to "take" them, the little shoots immediately beneath are rubbed off.

Arum Lilies.—When the ordinary white Arum Lily, grown in flower-pots, has finished flowering, the plants ought to be hardened off by being placed in a frame or at the foot of a sheltered wall; they may then be put out of doors for the summer. Some gardeners prefer to keep them in pots and by gradually decreasing the supplies of water "dry them off"; when the leaves have died down watering is discontinued. Most people, however, plant them in the garden for the summer months, leaving them

there until September. They are then taken up and repotted. When established in the flower-pots they may be brought into bloom slowly or quickly, as desired, and according to the warmth of the greenhouse.

In the Fruit Garden

Watering Fruit Trees.—Fruit trees growing against walls often fail to produce satisfactory crops of fruit, and the gardener is at a loss to determine the cause. This may frequently be traced to allowing the trees to get dry at the roots in early summer. Even during winter the soil close to the wall is often comparatively dry, and as spring advances the roots are liable to suffer from lack of moisture, unless watering is practised. Should a period of dry weather set in, all trees growing against walls must be thoroughly watered, otherwise the small fruits are likely to fall off.

The same advice applies to Roses and other shrubs in similar positions.

Thinning Fruits.—It often happens that hardy fruits form or "set" in such numbers that it becomes necessary to remove some of them. Small ones and those that are so placed as unlikely to develop properly—as for example between a branch and the wall—should be removed first. It is usual to allow, on Peach and Nectarine trees, one fruit to each square foot of wall space, though they are not necessarily evenly distributed. Such as Apple, Pear, and Plum, of which the fruits are in clusters, must be thinned as common sense dictates; it is a mistake to allow a tree to bear an abnormally heavy crop. Disbudding must be continued, especially with Peach, Nectarine, and Morello Cherry, though it is an excellent plan to look over all fruit trees occasionally at this season and to remove superfluous shoots. If this were done more frequently fruit trees would not become full of weak, useless

THE MOUNTAIN CLEMATIS (MONTANA) ON A COTTAGE IN SURREY

A ROCK BORDER PLANTED WITH SATIN FLOWER, KNIPHOFIA, MEADOW RUE, DWARF SHRUBS, ETC

growths, as they so often do, and the task of pruning would be lightened.

Fruit Trees in Pots.—Probably comparatively few amateurs grow hardy fruits in pots because of the considerable amount of labour involved. Yet those having a light and airy glasshouse, whether heated or not, would find their cultivation full of interest and not without profit. They must be kept as cool as possible until the fruits have formed, and, especially while the trees are in bloom, air should be admitted freely. Disbudding is one of the most important items in the care of Peach, Plum, Nectarine and Cherry trees grown in pots. It is far better to rub off superfluous shoots while they are small than to allow them to make unnecessary growth.

Thinning Grapes.—The task of thinning is essential to the production of fine grapes, and a certain skill is required to perform it satisfactorily. A pair of grape scissors—which have long, narrow blades—and a slender forked stick are required; the latter is held in the left hand for the purpose of keeping the bunch steady, the central stem of the bunch being in the fork of the stick. All small, seedless berries are removed first, particularly those in the centre of the bunch, then ill-placed ones, those that spoil the symmetry of the bunch, are cut out.

Thinning ought not to be completed on one occasion. In three or four weeks the bunches should be looked over again, further superfluous grapes then being cut out. Each berry of a variety like Black Hamburgh will be about half an inch wide when ripe; those of Alicante and other larger varieties need even more space. In thinning special care must be taken not to cut off the terminal berries of the branches that make up the bunch, for the proper outline of the latter depends upon them.

The side shoots of the vine must be "stopped" immediately beyond the first or second leaf that develops behind

the bunch of grapes. Other secondary growths, called sub-laterals, will form and should be "stopped" as soon as one leaf has formed. Otherwise the trellis will become covered with a thicket of useless shoots.

If Peach trees were disbudded as has been advised, some of the new shoots will be long enough to tie down to the trellis—there ought to be only two or three on each of the older shoots. They must be tied parallel with the existing stems which they are destined to replace. Except when the fruit trees are in flower, the atmosphere of the glasshouse must be kept moist by syringing once or twice a day. The ventilators should be opened slightly early in the morning, wider still as the day advances, and closed between three and four o'clock in the afternoon.

Melons and Cucumbers that were raised from seed last month may now be planted in a bed of soil on a hotbed in a frame or they can be grown in larger pots in the greenhouse. Melons like turfy soil, Cucumbers half loam and half leafmould. A little soil should be placed over the roots in the form of a mound, this being added to as the roots show through. When the plants are about 9 inches high the points are pinched out to cause side shoots to grow, and on these the fruits will form. It is necessary to fertilise the female flowers of the Melon with pollen from the staminate or male flowers to obtain fruits; this ought only to be done when several female blooms are open at the same time, otherwise the fruits will be of irregular size.

In the Kitchen Garden

Runner Beans may now be sown out of doors in deeply-prepared and enriched soil; place the seeds about 2 inches deep, and thin the seedlings to 6 inches apart. The rows ought to be 5 feet apart. Prizewinner and Hackwood Park Success are excellent varieties.

Dwarf French Beans are sown now 3 or 4 inches apart in rows from 12 to 15 inches distant from each other. Butter Beans are treated similarly.

Seed of Beetroot is now sown in shallow drills 10 inches apart. The seedlings are thinned to 7 or 8 inches. This crop needs to be grown in ground that has not been manured recently, though it must be deeply dug. Dell's Crimson and Cheltenham Green Top are reliable varieties.

Various Herbs may be raised from seed at this season, such, for example, as Parsley, Sage and Marjoram. Mint and Thyme are easily increased by taking up and dividing the clumps and replanting rooted portions.

Ridge Cucumbers.—Those who have no convenience for growing Cucumbers in a frame or greenhouse should try the ridge varieties, seeds of which may be sown out of doors this month, in a bed of soil over a small hotbed of leaves and manure. The seedlings need protection in the event of cold weather; they should not be closer together than 2 feet. The top of each plant must be pinched off to cause the formation of side shoots. Plants of Cucumber that were raised under glass last month may now be planted in a frame; a small mound of compost is placed upon a hotbed and the seedling planted in this.

Early Potatoes should be earthed up, first scattering a little soot around the plants. The soil must be broken up finely, otherwise the work cannot be carried out satisfactorily. Plant the earliest raised seedlings of Celery in trenches; sow Peas. Scatter soot among spring-sown Onions and hoe frequently between the rows of all vegetables. Thin seedlings as this important work becomes necessary.

Mushrooms may now be grown in a cool, open shed, such, for example, as one that faces north. Sufficient horse manure is collected to form a bed not less than

2 feet thick; it must be turned frequently during a period of ten days or a fortnight before being made up as a bed. Insert pieces of spawn 5 or 6 inches apart when the temperature of the bed has declined to 85°. Cover the bed with 2 inches depth of sifted soil and beat this with the back of a spade. Finally cover with a light scattering of straw and keep moist.

JUNE

Flowers and Fragrance

THE garden in June is in its most captivating mood; many of the plants are in blossom, many more are in bud. Such disappointments as may be in store have yet to materialise. The garden in June is full of the joy of life; the glamour of hope and the promise of good things to come are all-pervading. Days are long, nights are cool, and the fragrance of countless petals fills the air; the flowers are never so sweet as in June. Grassy ways are green, the leaves are fresh, there are signs on every hand of life, full, vigorous, beauteous life, and no portents of the withering that must follow. The Roses are opening fast, and never again will they be so sweet. The Pinks form a fragrant fringe to the garden path, every pole is covered with buds and blossoms bursting through untarnished leaves; white Lilies mingle with Damask Roses; Clematis peeps from climbing Rose —everywhere there is fair, fresh bloom and never a fading leaf. How to prolong the ecstasy of June is the problem of the gardener. It is accomplished only by the adoption of prosaic methods—by plying the hoe to keep the surface soil loose and to preserve the precious moisture; by picking off the flowers as they fade; by timely watering morning or evening, but never at noon; by curbing a trespassing shoot here and encouraging a weakly one there; by careful tying and staking and the annihilation of weeds. The observance of such commonplace tasks alone can keep the garden gay to its close and imbue it with some of the spirit of youth, even when it is old.

Among the Hardy Flowers

Increasing Pinks.—The orthodox method of increasing Pinks is by means of pipings. The difference between a piping and a cutting is that while the stem of the latter is cut through beneath a joint, a piping is merely pulled off. The shoot is held firmly with the left hand while its top is given a sharp pull. Pipings, which ought to be 2 or 3 inches long, form roots readily if inserted in pots or boxes of sandy soil in a frame which is kept closed for a few weeks. A packet of seed sown now in a frame, or even out of doors, produces plants that will yield a delightful display next summer. Still another method of increasing Pinks, and perhaps the simplest of all, is to take up the clumps in September, divide them and replant the pieces, most of which will be found to possess roots.

Hardy Azaleas.—There is no colouring so intense in early June as that of the hardy Azaleas, and it is difficult to imagine why amateurs do not plant them more frequently. The variety of shades represented by their blossoms is remarkable, and ranges from white through pink to crimson, and from pale yellow to deep orange. If grouped in an open spot among trees they are seen to the best advantage, for the surrounding greenery forms a perfect setting to their brilliant colours. The hardy Azaleas are of simple cultivation and thrive in ordinary soil, though the addition of a little peat to the ground at planting time is advisable. Like Rhododendrons, they appreciate a mulch of rotted manure or leaves in spring or early summer. Their only real objection is to soil containing lime. These shrubs have a second period of beauty in autumn, when the leaves become richly tinted and glow brightly in the mist of an October afternoon. Little pruning is required. If a bush is of awkward shape the offending branches may be shortened immediately the flowers are over; otherwise no attention in this direction is needed beyond cutting out dead, weak, or obviously useless

branches. Seed pods should not be allowed to form, or the future blossoming of the shrubs may be affected.

Thinning and Staking are two important tasks in the flower garden. Annuals, seeds of which were sown where the plants are to bloom, must be thinned so that each seedling has sufficient space for development. If they are crowded they become weak and their flowering season is short. The blossoming period of Poppies, Sweet Peas, Violas and others may be extended considerably if the fading flowers are picked off; if seed is allowed to form the display soon diminishes. Faded Roses ought to be cut off as soon as their beauty is past, otherwise the petals fall on the soil and in rainy weather detract from the display. This is particularly necessary with red Roses, the blooms of which usually fade to magenta and spoil the charm of neighbouring blooms. Each Rose should be cut off with at least 5 or 6 inches of stem, so as to encourage the growth of other shoots. Plants that need staking ought to be attended to without delay; nothing is more annoying than to have the results of a whole year's work spoilt for want of a little timely staking. If the finest flowers of Roses are wanted, the smaller side buds should be removed. This practice is scarcely advisable when Roses are grown for garden display, except when the flowers are produced rather thickly in bunches. Syringing occasionally with Abol or other insecticide prevents the spread of greenfly and other insects, though as many caterpillars as possible ought to be destroyed by hand picking.

Many beautiful hardy flowers can be raised with the greatest ease from seeds sown now in well prepared soil on a partially shaded border. Among them are Hollyhock, Aquilegia or Columbine, Foxglove, Sweet William, Snapdragon, Viola, Pansy, Delphinium, Lupin, Campanula, Oriental Poppy, Erigeron, Iceland Poppy and many more. The seedlings need only be transplanted once before they are permanently planted in autumn.

Some of the Rambling Roses make such vigorous growth that the flowers become partially hidden. Shoots develop among the blossoms of such varieties as Dorothy Perkins, and should be cut off. Fresh stems often arise in such numbers from the base of the old plants that it is essential to remove the weakest of them.

The lawn ought to be mown regularly once or twice a week, and mowing should be followed by rolling. Providing mowing is done frequently it is not necessary to use a box on the machine; in fact, it is, I think, preferable not to do so, for the grass cuttings serve as a slight mulch, and prevent the lawn from becoming parched.

Watering is a task that occupies much time at this season, and during a long spell of dry weather it cannot be neglected. It is far better to give the beds a soaking once a week than to moisten them partially every day, though in the evening of a hot day sprinkling with the hose does good. As has been pointed out before, trees and shrubs against walls are most likely to suffer from drought, and especial attention should be paid to them. Rock garden plants need watering frequently during dry weather; they are, or ought to be, in well-drained soil, and quickly become dry at the root, a condition that is inimical to success.

Summer Bedding.—The practice of filling beds and borders with tender flowering plants, popularly known as summer bedding, is carried out early in June, when such kinds as Fuchsia, Begonia, Lobelia, Geranium, Canna, Abutilon and innumerable others are grouped in beds of various designs to form colour schemes. Although this method of gardening has been severely condemned, it has, nevertheless, certain advantages. The plants remain attractive until late autumn, and although monotonous, they are continuously gay. When they are taken up in autumn an opportunity is given to fill the same beds with bulbs and other spring flowers in variety. One

of the disadvantages consequent upon summer bedding is that the plants, being tender, must be kept under glass throughout winter, and spring flowers, which are planted in autumn, have to be grown on a reserve piece of ground throughout summer. Some bedding plants are suitable for furnishing window boxes, such, for example, as the Ivy-leaved Pelargonium, Lobelia, Marguerite, Calceolaria, Petunia, Verbena and so on, and now is the time to attend to this.

One may fill beds with flowering plants, with foliage plants, or with a mixture of the two. The simpler the scheme of planting, the more effective it usually proves. No summer bedding plant surpasses the Geranium, or more correctly Zonal Pelargonium, for brilliance of colour, though it is doubtful if its attractiveness is increased by association with yellow Calceolaria and blue Lobelia, as is so often attempted. A bed filled with the bright red Geranium Paul Crampel makes a striking display, and its splendour is not enhanced by the presence of others. The shrubby yellow Calceolaria remains bright for weeks together, but it makes a very ordinary show. The blue Lobelia is an excellent blue flower for the margin of beds, or for planting as a ground covering among taller plants. Canna, or Indian Shot, is a handsome plant, valuable both for its leaves and flowers, and looks well upon a carpet of blue Lobelia, grey-leaved Cerastium, Verbena, or other suitable low-growing plants. One of the prettiest Geraniums is called Flower of Spring; it has green and white leaves and pink blossom —an attractive combination. A bed planted with this variety may be edged with one of the tricolour-leaved sorts, such, for example, as Mrs. Pollock, of which the prevailing leaf tint is yellow. Tuberous Begonias make a charming bed, and cover the ground so well that no companion plants are needed. Fuchsias are excellent for filling summer beds; their growth is graceful, and the display is attractive without being garish. One of the

most satisfactory of summer bedding plants is the Ivy-leaved Pelargonium Madame Crousse, of rose-pink colouring. The plants may be allowed to trail over the surface of a bed planted with Heliotrope, the blue Plumbago capensis, or some other tall plant having flowers of a colour that will harmonise. Of Marguerites the best is the double-flowered variety Mrs. Sander ; a satisfactory bed may be arranged with this alone, for the plants last in bloom throughout the summer. Nothing could be more delightful than a bed filled with Snapdragons, especially of the charming and distinct shades now available—pink, yellow, orange-red, etc. The half-hardy annual Phlox Drummondi, obtainable in various shades of colour, fills a bed very pleasingly. The best annual for edging is the dwarf variety of White Alyssum; unlike many annuals, it remains in bloom throughout the season and keeps compact. Cineraria maritima, with deeply-cut grey leaves, is a favourite plant for edging and for groundwork. Two pretty trailing plants with grey foliage are Lotus peliorhynchus and Cerastium, or Snow-in-Summer. The Scarlet Sage (Salvia splendens), the blue Sage (Salvia patens), and Lantana, with small heads of blossom in shades of orange, pink and rose, make handsome beds. So, too, do Pentstemon and the light yellow Calceolaria amplexicaulis, a plant of more graceful growth and greater charm than the common shrubby Calceolaria. Of Lantanas the prettiest is salviaefolia. A useful edging plant is the old Ageratum, having grey-blue flowers; it remains compact and is in bloom throughout the season.

Plants with Ornamental Leaves. — Among plants grown for the beauty of their leaves the Iresine, with reddish foliage, is an old favourite; so, too, is ornamental Beetroot. Abutilon Thompsoni, with leaves of yellow, green and white, and Abutilon Savitzii, possessing pretty green and white leaves, are favourites. Albizzia lophantha, of tall graceful growth, with

deeply-cut foliage, and Grevillea robusta, the Australian Silky Oak, with equally ornamental leaves, are often used. The grey-blue foliage of Eucalyptus renders this plant of value for summer bedding.

One of the showiest plants is Streptosolen (or Browallia) Jamesoni, which is tall and has brilliant orange-coloured blossom. Standards of Fuchsia, Heliotrope, Lantana and blue Plumbago are often placed in large beds above a groundwork of low-growing plants. The effect is showy, though, as with the grouping of most tender plants, it is not at all natural. The most tasteful beds are those in which the colour scheme is simple and not too garish.

Simple Colour Schemes.—The graceful light yellow Calceolaria amplexicaulis looks well above a groundwork of grey-blue Ageratum, or the pale mauve-blue Viola Maggie Mott. The pink Ivy-leaved Pelargonium forms a suitable groundwork for a bed planted with the double white Marguerite or Heliotrope. The old, fragrant, grey-leaved Southernwood looks particularly well if the intervening spaces are planted with a purple Viola, such as cornuta Papilio or Councillor Waters. For a bed filled with blue Lobelia the dwarf white Alyssum forms a suitable edging, thus creating a simple though attractive colour scheme. One of the finest late-summer beds consists of the Summer Cypress (Kochia scoparia), a half-hardy annual, in association with the orange-coloured and yellow Montbretias. It is a mistake to make the soil rich for summer flowers, for they grow vigorously but give comparatively little bloom. They must be planted firmly.

Increasing Rock Plants.—Many rock plants are readily increased by means of cuttings taken at this season; they form roots without difficulty if inserted in pots or boxes of light sandy soil placed in a frame. The following, among others, may be propagated in this way: Arabis, Alyssum, Evergreen Candytuft, dwarf Phlox,

Pinks, creeping Gypsophila, Aubrietia, Viola, Silver and Mossy Saxifrages. Mossy Saxifrages are also easily increased by division; if the divided portions are planted on a shady border they soon form roots. Seeds of many kinds may still be sown; the seedlings will make useful plants by next year. Especially easy from seed are Campanula, Poppy, Viola, Aubrietia, Erigeron, Pinks, Primulas in great variety, Saponaria, Erinus and so on. Some of the vigorous plants, such as Aubrietia, Arabis and Alyssum, are apt to become untidy and straggling as the years pass, but if, as soon as the flowers are over, the shoots are cut back fresh growths will develop from the centre of the plants, which again become tufted and compact.

The Sun Rose.—Among low-growing summer-flowering shrubs few surpass in beauty and profusion of blossom the Sun Rose, or Helianthemum. The numerous varieties are invaluable for the rock garden, or for grouping along the margin of the shrubbery. They must have a sunny place, though they are happy in the poorest soil. The varieties of the common Sun Rose (Helianthemum vulgare) are chiefly grown, and many have brilliantly coloured flowers. A few distinct named sorts are Fireball, orange, Red Dragon, red, sulphureum, pale yellow, and Yellow Standard, yellow. All these are shrubby evergreens. Quite a distinct kind is Helianthemum tuberaria, a choice herbaceous perennial which bears a profusion of yellow blossom. It is more difficult to grow than the others named, and needs well-drained soil and a warm position in the rock garden. Seeds of the Sun Roses, if sown now in boxes of light soil placed in a frame, will soon germinate, and the seedlings will develop into excellent plants next year.

The Rock Rose, or Cistus, is a delightful shrub for those possessing warm, light soil, although a few kinds are hardy enough for gardens ordinarily circumstanced. One of the most attractive is the low-growing Cistus florentinus, most suitable for the rockery. In June it becomes

smothered in comparatively large white flowers. The hardiest of the tall kinds, and one of the most handsome, is Cistus laurifolius, having white flowers blotched with yellow. Cistus villosus, with greyish leaves and rose-purple flowers; Lorettii, white blotched with crimson; and ladaniferus, white with reddish blotch, are other handsome kinds that form big bushes. It is not a difficult matter to increase the Rock Roses by means of cuttings taken in July; they are put in pots of light soil in a frame, which must be kept closed for a few weeks.

Brompton Stocks have long been favourites in amateurs' gardens, and especially in cottage gardens; in early summer they provide a most welcome show of blossom. Seeds ought now to be sown on a border of prepared soil. If kept moist and shaded they will soon germinate, and subsequently the seedlings are transplanted 8 or 9 inches apart. In September or early October they are planted out in the beds and borders. On cold, heavy soil Brompton Stocks are sometimes disappointing, because they fail to pass through the winter successfully; when losses are feared it is wise to pot the plants in autumn, keep them in a frame during winter, and plant out of doors in early spring. But if a sheltered spot is chosen and the soil is lightened, if necessary by mixing in sand, ashes or road scrapings, and leaf soil, they may usually be trusted to pass through the bad weather safely.

In the Greenhouse

Sowing Seeds.—Cineraria, Calceolaria and Primula may be raised now to provide a succession of flowering plants next year. Seeds are sown thinly in pans of light, sifted soil, placed in a cool frame; a slight scattering of silver sand only is given as a covering. The frame must be shaded from sunshine, and when water is necessary it is applied by immersing the seed-pots to the rim in a bowl of water.

Show and Fancy Pelargoniums are beautiful summer-flowering greenhouse plants, though few amateurs seem to grow them. They are now fast coming into bloom and must be kept cool and shaded to preserve their beauty as long as possible. They are increased by means of cuttings, inserted now in pots of light soil, placed in a frame; the cuttings are chosen from growths that show no signs of flowering.

Various shrubs that were grown in pots for the embellishment of the greenhouse in spring ought now to be placed out of doors, the pots plunged to the rims in ashes. The soil must be kept continually moist by timely watering. In the case of pot Roses intended to be forced into bloom early next winter some measure of rest for a few weeks is necessary. This is not given by withholding water altogether, but by gradually diminishing the supply, though continuing to syringe the plants freely during dry weather.

Freesias and Lachenalias in pots on the greenhouse shelf, or in a sunny frame, need no more water now, the leaves and stems having died down. They should be exposed to full sunshine, so that the bulbs may become well ripened.

Geraniums for winter flowering should now be potted in 6-inch pots, in which they will bloom; until September they remain in an airy frame. The same remarks apply to the scarlet Salvia, Perpetual Carnations and winter-flowering Begonias, though good plants of the latter may be grown in 5-inch pots.

Cuttings of many greenhouse plants that were rooted in late spring now need to be potted singly in small pots, such, for example, as Coleus, Poinsettia (so greatly valued for its leafy scarlet bracts) and Bouvardia. Lilies in pots must be kept perfectly cool; in fact, all greenhouse plants should be shaded from bright sunshine at this season. Primulas, Cinerarias and Calceolarias that were sown in May are now ready to be potted singly in small pots;

they must be kept in a cool and airy frame. Persian Cyclamen in small pots may now be repotted in those 5 or 6 inches in diameter, in which they will bloom in winter and spring. These plants thrive best in an airy and cool frame, preferably on a base of ashes.

An attractive plant suitable for those possessing a large conservatory or greenhouse is Humea elegans. It is grown largely for the sake of its fragrant leaves, though very ornamental when in bloom. The loose sprays of small, reddish-brown flowers render the plants especially graceful. The Humea is often used for filling summer beds in the flower garden. Seeds are sown now in pots in a frame, and the seedlings are repotted as becomes necessary; they pass the winter in 4-inch pots, and in spring are repotted into those 7 or even 8 inches wide.

Greenhouse Climbing Plants usually make vigorous growth at this season, and unless care is taken to thin out and regulate the shoots they are liable to become a hopeless tangle. Those for which there is not room ought to be cut out, together with others that are weakly. Only by allowing each shoot sufficient room for its proper development can climbers be kept healthy and presentable.

Celsia cretica, or Cretan Mullein, is a handsome plant for the greenhouse, and as its cultivation offers no difficulty it ought to be more generally grown by amateurs. It produces a leafy stem some four feet or more high, and the upper portion bears an abundance of Mullein-like yellow flowers; if the stem is "stopped" two or three others are produced, and the plant is then naturally less tall, though perhaps more generally useful. Seeds are sown now, in pots of light soil in a frame. The seedlings are potted singly in small pots, and in autumn are placed in those 5 or 6 inches wide, in which they will bloom. During the winter a temperature of from 50° to 55° is suitable.

Perpetual Carnations should be "stopped" for the last time during June. If the points of the growths are pinched out, the effect is to induce the formation of other

shoots, and well-branched plants result. If the shoots are "stopped" later than this month the Carnations will not bloom until spring.

In the Fruit Garden

One of the chief tasks in the out-of-door fruit garden is that of thinning the fruits of Apple, Pear, Apricot, Peach, and others, while it is advantageous to mulch the soil above the roots of heavily-laden trees with decayed manure. Watering is an important work at this time of year, and especial attention should be paid to trees planted against a wall. The young shoots on Peach and Nectarine trees often produce side growths; these are of no value and ought to be cut out. The Raspberry, Blackberry and Loganberry usually bear fresh stems in such numbers that all cannot be accommodated conveniently; the weakest of them may now be cut out. Early in the month clean straw should be laid among Strawberry plants for the purpose of keeping the fruits clean as they ripen. In gathering green Gooseberries it is advisable to do so systematically, with the object of leaving the remaining fruits, not in bunches, but at more or less regular intervals over the whole bush. Fruit trees on walls should be syringed or sprayed with the hose in the evening of a hot day; not only does this encourage growth, but it assists in preventing the spread of red spider and thrips. The shoots of Peach, Nectarine, Plum, Morello Cherry, and of other trees on walls ought to be tied loosely to the wall or trellis alongside older branches which they will supplant later on. Aphis frequently attacks the tips of the growths of Cherry, Plum, Pear and other wall trees, and should be destroyed by insecticides early in the season, otherwise the trees may suffer serious harm.

Fruit Trees under Glass.—Unless ventilation is practised carefully at this season, the leaves and fruits of Vines and other fruit trees under glass are liable to be

"scorched." The ventilators must be opened slightly quite early in the morning, the amount of air being increased as the day advances and decreased towards evening. In growing fruits in an unheated greenhouse it is an excellent plan to leave the top ventilator partly open throughout the night. Frequent attention to thinning the fruits is necessary, while the shoots of Vine, Melon, and Cucumber must be "stopped" and tied down as is required. The side shoots that develop on Tomato plants should be cut off or rubbed out and the plants must be kept perfectly cool.

In the Kitchen Garden

One of the most important tasks of this month in the kitchen garden is that of planting out the various crops of winter greens that were raised from seed in April. The best land is that which is firm, though not containing fresh manure. The chief object is to ensure firm and sturdy growth that will withstand cold well, and this is not possible by planting in loose, freshly-manured ground. If the seedlings are not yet large enough to be planted finally, they ought to be transplanted from the seed bed, so that they may develop sturdily.

Tomatoes now in 5-inch pots, and having already one bunch of fruits, should be put out at the foot of a warm wall or fence, or even in the open garden. In the event of the summer being wet and dull the latter place may prove unsatisfactory. All side shoots must be rubbed out, and staking will need attention. Egg-plant, or Aubergine, and Indian Corn, or Maize, raised from seed sown in warmth may now also be planted out. The latter crop needs good soil and a fairly sheltered position, and must be watered very freely in dry weather. Aubergine, too, ought to be planted on a warm border.

Leeks and Celery for the main crop ought now to be planted, the latter in trenches prepared as already described, the former also in trenches if the finest produce is required. Alternatively Leeks may be planted in holes of such a depth that the tops of the seedlings are on a level with the ground surface. Celery is usually planted in a double row in a trench about 2 feet wide, the plants being 9 or 10 inches apart.

A crop of late Peas is obtained by sowing early in June. The ground must be rich, and it is wise to sow in a shallow trench to facilitate watering, for it is necessary to keep the plants continually moist at the root. Choose an early variety.

Sow Endive Winter Curled in shallow drills and finally plant out 10 or 12 inches apart. Sow Turnips and Carrots, choosing, of the former, Little Marvel, and of the latter, Early Nantes. Sow Parsley to ensure a crop during winter, and continue to sow both Cabbage and Cos Lettuce, Spinach and Radish, choosing a partly-shaded position. Plant out Cabbage and Cauliflower as the seedlings become ready. When planting out seedlings it is advisable to choose showery weather for the work, for they then become established all the more quickly. Asparagus ought not to be cut after about the middle of this month, or the plants will be weakened and the next year's crop prejudiced.

JULY

High Summer

JULY is the month of Roses, Carnations, Sweet Peas, Canterbury Bells, and favourite border flowers generally; the garden pageant is at the zenith of its beauty. From his cool retreat, "under the shady roof of branching Elm," the gardener should spare odd moments in which to attend to the most pressing needs of the flowers—the removal of faded blooms, occasional staking and tying, hoeing and watering. Otherwise, he may enjoy to the full the fair creation of his labour of love, and, for the nonce, endeavour, in his appreciation of the enchanting present, to forget the necessity of making preparation for the future.

Among the Hardy Flowers

Layering Border Carnations. — I have always had an objection to layering Carnations until most of the flowers are over, because, having spent a year in growing them, it seems that one ought to be able to enjoy their comparatively short season of blossoming undisturbed by any thought of preparing for the following year's display. It is, however, important to make a start some time in July; if one has a considerable number of plants to attend to, layering will probably occupy two or three weeks, supposing the work to be carried out in spare moments. If it is delayed until late in August, as is the practice among amateurs generally, the plants are not likely to become well rooted by October, and, consequently, do not prove so successful the following year. The best results are

obtained by planting well-rooted layers in early autumn, not by keeping the layers in pots throughout the winter and planting in spring. The Border Carnation has come to be regarded as an annual in many gardens, though I quite fail to see why it should be so treated when the purpose is to grow for garden display. Splendid results follow if the best shoots on each plant are layered and left to form a clump, instead of being taken up for replanting in a fresh bed. This is the way to obtain flowers in abundance and to see the Border Carnation at its best as a garden plant. One may really leave Carnations undisturbed for two or three years, even without layering the shoots, though after that period of time they become straggling and unsightly. There is not much doubt that flowers of the finest quality are obtained by replanting the rooted layers annually, and most people seem to prefer to do this.

The actual process of layering, though simple, needs to be performed with care. If the work is negligently carried out many of the layers will fail to root. It is not wise to layer all the shoots on a plant; only those which are strong and healthy should be selected; a weakly layer is not likely to develop into a vigorous plant. The lower leaves having been stripped off, the knife is inserted at the side of the stem; on reaching the middle it is turned in an upright direction until it has passed through a joint. By means of a proper layering pin, or a hairpin, the layer is pegged firmly into the soil. The pin is passed over the layer, near its base, at the foot of the remaining leaves, and pressed into the soil. Care should be taken to keep open the slit portion; it is there, and not upon that part of the stem still attached to the plant, that roots will form. It is a mistake to heap up a mound of compost over the layer, for it is with difficulty that it can be kept moist in hot weather. It is often better

to remove a little of the border soil immediately around the parent plant, and to replace this with the compost used for layering, which consists of sifted loam with a little leaf soil and sand freely intermixed. If the layers are pegged directly into the border it is generally a difficult matter to take them up without breaking the roots.

Roses from Cuttings.—The simplest method of raising Roses from cuttings is to select portions of shoots that have flowered, cut them into pieces 6 or 8 inches long, and place them in wide-mouthed bottles of water on the greenhouse shelf. In a few weeks roots will issue from the base of each cutting; when the roots are about ½ inch long the cuttings are potted separately in small pots of light soil plunged to the rim in a slight hotbed, or in fibre in a glass-covered box or propagating case. In the course of two or three weeks they will be established, and may then be grown with the other greenhouse plants. Soon they will be ready for potting in 5-inch pots, in which they remain throughout the winter, in readiness for planting out of doors in spring. In making a cutting the base is formed by severing the stem immediately beneath a bud.

Layering Roses.—This method of propagation is not commonly practised, and in view of the ease with which Roses may be raised from cuttings it is perhaps scarcely worth while. The chief advantage is that one at once gets a grown plant. Layering is practised with vigorous Roses, especially climbing varieties, Penzance Briars and some of the old garden kinds. The shoot or branch to be layered should be of the current year's growth; it is notched, at a point most conveniently brought to the ground, in the same way as in the preparation of a Carnation layer. The knife is inserted 1 inch or so beneath a bud or joint, and when the centre of the stem is reached the cut is continued in an upright direction, until it has passed through the joint. A small stone is often placed in the slit to keep it open The branch is then made secure in

the soil, the slit portion being pegged down firmly and covered with sandy compost. The branch may be sufficiently rooted for lifting by March, though it is really better to leave it undisturbed until the following autumn.

Pruning Climbing Roses.—Most climbing Roses bear the finest flowers upon shoots of the previous summer's growth, and the gardener's object should be to cut out the older stems that have already flowered, to make room for the fresh ones. This work ought to be undertaken late in July or early in August. It is not possible to treat all climbing Roses alike. Some varieties produce fresh stems so freely that all the old ones may be cut out; this is the case with many of the Dorothy Perkins type of Rose. When fresh stems from the base are few in number, discrimination as to which, if any, shall be cut out is essential. It often happens that only the upper part of an old stem can be removed, because a new shoot originates, not at its base, but some distance above. If, however, the object is kept in view to cut out the old and make way for the new, the work will be found simple. The best way of carrying out summer pruning is to detach all stems and place them on the ground; the useless stems are then easily removed. An opportunity is thus given to destroy old ties, which often harbour insects, and to replace them with fresh ones, while the posts can be renewed if this is necessary. Only in this way can the work be carried out really satisfactorily. It is not, however, always possible, owing perhaps to the large size of the Rose, or for other reasons.

Endeavour should be made to prolong the beauty of the Roses, and to ensure a good display again in late summer and autumn. The surface of the beds must be hoed once or twice a week, and weekly applications of guano or some other quick-acting fertiliser are beneficial. When a bloom has faded the stem ought to be shortened by about one-third; the result is to force the development of other sturdy growths that will in due course bear

blossom. Many of the modern Roses are practically perpetual flowering, if care is taken to encourage the growth of fresh shoots. Numerous stems arise from the base of climbing Roses at this season, and it is often necessary to remove some of the weakest; the majority should be tied to the supports, for they will in due course supplant those now in bloom.

Saving Seeds.—The practice of saving seeds from home-grown plants is particularly interesting, and it has an advantage. The seeds are fresh, and are almost certain to germinate. Practically all seeds deteriorate by being kept, though some to such a slight extent that a storage of a few months makes very little if any difference to their germinating power. In raising certain hardy plants, such, for example, as Anemone, Primula, Saxifrage, Gentian and others, it is important to sow the seeds as soon as they are ripe; otherwise germination may prove to be a long process. It is not uncommon for seeds of such flowers to lie dormant for a year or more after being sown. If the seeds are gathered now, dried, and sown at once, they are likely to sprout far more quickly. The flowers of many early rock plants are now over, and careful search will reveal the presence of numerous seed pods. When they commence to burst it may be known that the seed is ready to gather. After a few days on a sunny shelf in the greenhouse it should be sown in pots or pans of sandy soil in a cool and shady frame. Such plants as Mossy and Silvery Saxifrage, Viola gracilis, Poppies, Aubrietia, Alyssum, Saponaria, blue and yellow Flax, Pinks, Primulas and many others are well worth raising from home-saved seed; an excellent lot of plants will be available for permanent planting next spring. It is as well to keep the seedlings in a frame thoughout the winter.

The Madonna Lily (Lilium candidum) is one of the most charming old-world flowers, and no garden ought to be without it. The bulbs are often on sale in autumn,

and even in winter and spring, but the correct time to plant is late in July or in August. If this is done the bulbs make a loose tuft of leaves before autumn, and are then almost certain to blossom the following summer. If planting is postponed until autumn or winter there is little or no chance of the bulbs flowering the next year. This Lily forms roots from the bulb only, and not from the base of the stem, so deep planting is not necessary. The bulbs are put at such a depth that there is about 3 inches of soil above them. The Madonna Lily never looks better, I think, than when planted beneath a pergola that is not densely covered, and especially a pergola that is planted with June-flowering Roses.

The Orange Lily (Lilium croceum), with large, showy, orange-coloured blooms, ought to be planted this month or next, and the same may be said of the brilliant varieties of Lilium elegans. None of these is stem-rooting, and the bulbs are put at the same depth as already recommended. The Madonna Lily is often the victim of a disease called Botrytis cinerea, which, unless arrested, causes the death of the plant. The leaves first show greyish streaks and subsequently the stems collapse. A wise precaution at planting time is to place the bulbs in a bag of powdered sulphur and shake them, so that the sulphur may get among the scales of the bulbs. If this measure is followed in late spring by spraying with weak Bordeaux mixture the disease is less likely to make an appearance. Fresh bulbs ought on no account to be planted in the same place as that from which diseased ones were removed.

Planting Early Bulbs.—Few amateurs think of planting bulbs in summer, yet this is the correct time to put in those of early flowers such as Snowdrop, Crocus, Winter Aconite, Bulbous Iris, Squill and others. It is true that this task may be deferred until September, or even later, and the results still be passably good, but the sooner the bulbs are planted after late July the finer will be the

CLEMATIS NELLIE MOSER
(Pale mauve with pink shading).

TEA ROSE LADY ROBERTS, OF APRICOT COLOURING

DWARF PHLOX (STELLARIA LILACINA) IN THE ROCK GARDEN

flowers. The bulbous Irises are particularly charming plants, although the roots are rather expensive. Yet everyone ought to plant a few of such, for example, as reticulata, which has purple, fragrant blooms; persica, of which the flowers are blue, white and yellow; Krelagei, purple; and Danfordiae, yellow. The Scorpion Iris (alata) flowers in mid-winter and is, in common with all those named, delightful either for pots in the cold greenhouse or for planting on a warm, sheltered border. The bulbs must have well-drained ground and be covered with about 2 inches of soil. The Spring Snowflake (Leucojum vernum) is an attractive flower of spring, with white drooping blooms tipped with green. It is charming on the rockery or in sheltered positions in the flower garden. The roots or corms of spring-flowering, hardy Cyclamen ought to be planted this month. None is more attractive than Cyclamen Coum, with little rosy-purple flowers. Others are Atkinsii, ibericum, and latest of all to bloom, repandum. Among the early Anemones the two loveliest are the Grecian Anemone blanda and the Apennine Windflower (Anemone apennina), both blue flowered. They flourish in light, leafy soil in partial shade; the Apennine Windflower may be naturalised in semi-wild portions of the garden, beneath the shade of trees. They, in company with the Cyclamen, look particularly well among ferns. The Cyclamens like soil containing lime rubble, and should not be planted deeply. The Mound at Kew, which is planted with large trees, is a delightful spot in spring and early summer; hardy Cyclamen, Anemones, Triteleia (the Spring Star flower), Snowdrops, Daffodils, and Lilies find a congenial home there, together with hardy ferns. They provide a succession of flowers from earliest spring until summer, and no lover of gardens should fail to pay a visit there.

Lifting Bulbs.—Spring-flowering bulbs such as Hyacinth, Daffodil and Tulip may now be lifted, as the foliage has died down. This provides an opportunity of

removing the offsets or small bulbs and grading them into their various sizes; those which are likely to bloom next year should be kept together. The bulbs are cleaned, dried and stored in paper bags until early autumn, when they may be replanted. The offsets ought to be put on a reserve border, there to remain until they reach flowering size. It is not necessary, of course, to disturb Daffodils, for they increase in size and beauty year after year: early-flowering Tulips and Hyacinths are not so good in succeeding years, though they continue to flower and are quite useful for planting in shrubbery borders and in odd corners where quality of bloom is not the chief consideration.

When it is found necessary to lift spring-flowering bulbs before the leaves have died they should be taken up with as little damage to the roots as possible and be replanted in a shallow trench on a reserve plot, there to remain until the foliage has faded.

Autumn Crocuses. — When the autumn Crocuses and Meadow Saffrons were in bloom at Hampton Court in September a local newspaper announced that Crocuses were flowering for the second time that year, and no doubt the curious went to see them! Those who plant roots now of some of the charming autumn kinds that are available will be under no such misapprehension when the blossoms show through the soil in September and October. The bulbs of autumn Crocuses and Colchicums, or Meadow Saffrons, may be planted in corners in the rock garden, on a grassy bank, or in sheltered spots wherever an opportunity offers. They are especially welcome, coming, as they do, when other flowers are fading. They are indifferent to soil, except that which is unusually heavy and ill drained, and should be planted about 3 inches deep. When putting them in the rock garden it is wise to place them where the flowers will be protected from soil splashed up by rain, as, for example, among or near

a patch of Mossy Saxifrage. One of the best of the Autumn Crocuses is speciosus, bearing pale mauve flowers; pulchellus, lavender shade, and zonatus, lilac-rose, are other beautiful sorts. The common Meadow Saffron (Colchicum autumnale), though not possessing the splendour of the larger kinds, is nevertheless one of the most attractive. Colchicum speciosum, rose-purple, byzantinum, pale mauve, giganteum, lilac, are large handsome sorts. The leaves of the Colchicums, which appear after the flowers, are large, and this should not be forgotten at planting time; if the roots are put near choice alpines in the rock garden these may be ruined.

Winter Crocuses. — Some of the winter-flowering Crocuses are beautiful flowers, but as they open when bad weather is to be expected, means are taken to give them some protection. But in nooks in the rock garden, or on a sheltered sunny border, it is worth while having a few groups; a handlight or bell glass provides all the shelter that is required. They are also delightful for pots in the cold greenhouse. The corms should be potted now and kept in a shaded frame, or some other cool spot, for several weeks, so that roots may form freely. A few especially worthy of mention are Cloth of Gold, or susianus, golden yellow; Sieberi, pale mauve; chrysanthus, yellow; Imperati, mauve and fawn; and biflorus, white marked with violet.

Shrubs from Cuttings.—The present is an excellent time to increase various shrubs by means of cuttings. These are taken from "half-ripe wood," that is to say, from growths which are moderately firm and brownish in colour. Such shoots are usually obtained from branches that have borne blossoms. The ordinary method of preparing a cutting is followed, the latter being severed immediately beneath a bud or joint. It is often possible to take off a little piece of the older branch when the cutting is detached; the cutting is

then said to possess a "heel." It is found that cuttings with a "heel" of older wood often form roots more freely than those cut beneath a bud in the usual way. The cuttings are inserted in pots or boxes of sandy soil placed in a frame, which must be kept closed for a few weeks to induce the formation of roots. If the pots are plunged to the rims in a bed of ashes so much the better. No watering is necessary until roots have developed, providing the cuttings are syringed daily in bright weather. The frame must be shaded during sunshine, and to disperse moisture a little air is admitted for half an hour or so each morning. A few shrubs that are readily increased in this way are Mock Orange (Philadelphus), Bush Honeysuckle (Weigela), Rose, Spiraea, Golden Bell (Forsythia), and, of Evergreens, Aucuba, Privet, Ivy and others.

In the Greenhouse

Potting Freesias.—The Freesia is one of the most precious flowers for the greenhouse in winter. Bulbs potted now will be in bloom soon after Christmas, and by potting others at intervals of a week or two a prolonged display may be maintained. The Freesia is quite easy to grow in a greenhouse in which the temperature does not fall below 45° or 50°. The bulbs are placed about 1 inch apart in 5-inch pots; there should be ½ inch or so of soil above them. The best compost consists of loam with which some leaf soil and sand are mixed; if a little dried cow manure is available this, after being rubbed through a sieve, is excellent for enriching the compost. The pots of bulbs are placed in a cold frame, and are watered and shaded. They must be kept cool and the soil moist, though not at all saturated. In six weeks or so growth will be visible and the plants must be gradually inured to full light. Soon afterwards they are removed to the greenhouse, there to remain until they come into bloom.

The growths are slender and need support. The simplest way of affording this is to place a few sticks round the margin of the flower-pots and to pass raffia round the sticks. No attempt must be made to force the plants into bloom or they may not flower at all. A temperature at night of 50° is high enough ; this will of course increase naturally during the day, even when air is admitted, as it must be, quite freely, in favourable weather. The secrets of success are to give water rather sparingly until the pots are full of roots and to keep the plants cool. The commonest kinds are Freesia refracta and its white variety alba. But during recent years Freesias with blossoms of various shades of colour have been obtained, and some of them are very beautiful. An excellent selection consists of Leichtlinii, pale yellow; Amethyst, lavender; Chapmanii, yellow ; and Armstrongii, rose.

The Cape Cowslip, or Lachenalia, is a spring-flowering bulb which has attractive, mottled leaves and spikes of narrow, tube-shaped flowers, chiefly of red and yellow colouring. It is of simple cultivation. The bulbs are potted during July or early in August, in loamy soil with which a little leafmould and sand are mixed; they are placed from 1 to 2 inches apart, and are covered by about $\frac{1}{2}$ inch of soil. The pots of bulbs are watered and placed in a shaded frame, there to remain for six weeks or so, until, in fact, signs of growth are apparent. The plants are then gradually exposed to full light, and in September are placed on a shelf in the greenhouse. They ought to be fairly near the glass, say within 12 or 18 inches. The Lachenalia is almost hardy and may be grown in an unheated greenhouse ; so, too, may the Freesia, though both really do better in a minimum temperature of about 50°.

The Scarborough Lily (Vallota purpurea) is a great favourite with amateurs, who usually grow it in a sunny window. Complaints are sometimes made that it does not bloom freely, and these may often be traced to the fact

that the plant is given no rest. At this season it is advisable to keep the soil rather dry for a few weeks; water must not be withheld altogether, but should only be given when the soil is really dry. If watering is resumed at the end of three weeks or so the flower stems soon appear. The leaves of the Vallota are evergreen, and watering must be continued during winter, though the soil is then to be kept only moderately moist.

Early Bulbs.—A few potfuls of bulbs in bloom in the greenhouse early in the New Year are always welcome, and there is no difficulty in the matter, providing the bulbs are potted in August or during the first two weeks of September. The three chief kinds are Roman Hyacinth, Paper White Narcissus and Duc Van Thol Tulip. They are potted in 5- or 6-inch pots, and placed beneath ashes out of doors, or in a cool and shady frame for 6 or 8 weeks. At the end of that time the young shoots are gradually exposed to light, and the plants are placed in the greenhouse. The temperature ought not to be higher than 50° until the flowers show; it may then be increased if it is desired to have the blooms early. A soil composed of loam, with a little leaf soil and a free supply of sand intermixed, suits them well. When potting bulbs it is essential not to make the soil very firm beneath them, or, when roots form, the bulbs are pushed out of the pots.

In the Fruit Garden

Layering Strawberries.—The Strawberry is one of the most luscious of hardy fruits and is of the easiest cultivation. That is not to say that haphazard methods will succeed, for the opposite is the case. But if a few essential details are attended to Strawberry growing offers no difficulty. It is of importance to commence layering early in July, so that strong plants may be available for permanent planting in September. The layers are the little plants that form on stalk-like growths proceed-

ing from the old plants. Quite a large number of layers may be obtained from one plant, though it is not advisable to take them all. It is preferable to layer a few from each, rather than a large number from one plant. The layers nearest the old plants are usually stronger than those farther along the stalk, and they should be chosen, all others on the same stalk being cut off. If the Strawberries are intended for cultivation in pots under glass it is best to layer each one in a small pot filled with loamy soil, and plunged in the ground to its rim. Even if the object is to make a bed out of doors, there is no better method than this, though less labour is occasioned by layering in pieces of turf or directly in the ground after this has been stirred. The layer is fixed in the soil by means of a small wooden peg placed over the stalk as close as possible to the layer to keep the latter firm. If the soil is kept moist roots will form quickly. A certain number of layers will be found to be "blind"; that is to say, with defective centre —the firm crown or heart is wanting. Such as these ought on no account to be layered, for they will not produce flowers. During hot weather the layers should be watered at least once every day. If the Strawberry bed is planted early in September there will be a good crop of fine fruits the following year, but if planting is delayed until late autumn the first year's crop will be of far less value.

Growers reckon to gather three crops from Strawberry plants, though the fruits of the third season are usually small, and of greater value for preserving than for dessert. An excellent plan is to put the plants 1 foot apart in rows 2 feet from each other. After the first crop is gathered alternate plants in the rows are taken up, leaving all at 2 feet apart. By this means a bigger crop is obtained the first year. There are innumerable varieties of the Strawberry. One of the chief favourites is Royal Sovereign, and if not of the finest flavour, it is particularly satisfactory so far as growth and cropping are concerned. Sir Joseph Paxton is a reliable variety; Dr. Hogg, President

and Countess are also to be recommended. British Queen is considered to be one of the best-flavoured varieties, though it is not so easily grown as many others. Waterloo is a splendid late Strawberry. Among the new varieties King George is good. Louis Gauthier is a pale blush-coloured sort of good flavour.

Loganberry.—Probably no fruit has achieved so wide a popularity in such a short time as the Loganberry, and the reasons are not far to seek. It is of the simplest cultivation, and invariably bears an abundant crop. The finest fruits are borne on stems of the previous summer, and pruning should be carried out as soon as the crop is gathered. The old stems, those that have fruited, are then cut out and the fresh growths tied to the supports to replace them. The Loganberry is most conveniently trained to a rough trellis, or may be allowed to ramble over a fence, arch or arbour. In any case it must be allowed plenty of space, for it is very vigorous.

Other Berried Fruits.—During recent years many new berried fruits have been introduced, all of which require the same treatment as the Loganberry. Among them are the Lowberry, Hailshamberry and Laxtonberry, and each is claimed to be superior to the Loganberry. One of the finest of berried fruits is the Parsley-leaved Blackberry. It has attractive, deeply-cut leaves and without fail bears an enormous crop of large and delicious Blackberries. These plants thrive in ordinary soil, preferably in a sunny spot, though fairly satisfactorily in partial shade, and should be pruned at this season or as soon as the crop is gathered. They, in common with all hardy fruit trees, are best planted in October or November.

Summer Pruning is an important task to be carried out in July. It consists of "stopping" side shoots (*i.e.* pinching off the points) on the main branches. The usual plan is to cut off each side shoot or lateral immediately above the sixth leaf, not counting the small basal leaves.

Subsequently other growths, called sub-laterals, will form; they must be "stopped" as soon as two leaves have formed. Apples, Pears, Plums, Sweet Cherries, Apricots, and Figs benefit by summer pruning, as well as Red and White Currants and Gooseberries.

In the Kitchen Garden

Winter greens ought to be planted in permanent quarters as the seedlings become ready. It is important to allow them plenty of room; the vigorous sorts must be quite 2 feet apart. If planting has to be done during dry weather the seedlings should be watered as becomes necessary. Early Potatoes are ready to be lifted, and winter greens may well be planted on the vacant ground. Carrot, Lettuce, Turnip, Spinach and Radish should be sown to provide successional supplies if these are required. Prickly Spinach is sown now to ensure a supply for winter; from a sowing now Snowball Turnip will be available for winter use. Towards the end of the month seeds of Spring Cabbage are sown. If sown before that time the plants are likely to run to seed instead of forming hearts. Good varieties are Ellam's Early and Flower of Spring.

It is advisable to spray Potatoes to prevent attack by the Potato disease. Bordeaux Mixture is the best wash, and should be used fortnightly for the next month or six weeks. The Bordeaux Mixture is made by mixing 3 lb. of sulphate of copper and 1½ lb. of quicklime in 25 gallons of water. Peas and Beans must be staked as support becomes necessary. Nothing is more convenient than the ordinary Pea or Bean sticks, though it is possible to dispense with them by placing tall stakes at intervals along the rows and attaching strings to these.

AUGUST

The Gardener's Holiday

THE practice of gardening necessitates timely and careful anticipation; only by looking well ahead can one hope to achieve success. Even while the garden is gay with summer bloom preparations must be made for the flowers of winter. So many failures may be traced to a tardy beginning. Procrastination in the fulfilment of gardening tasks invariably leads to disappointment and to the loss of much of that pleasurable anticipation which is one of the delights of flower growing.

Among the Hardy Flowers

The Hydrangea is a great favourite with amateurs, especially for growing in pots, though in southern and many western gardens it is sufficiently hardy for planting out of doors. Perhaps it never looks better than when grown in a large pot or tub placed on the garden terrace, or at the top of a flight of garden steps. A well-grown plant, bearing numerous heads of pink or blue blossoms, is very handsome. Those who wish to propagate the Hydrangea should take cuttings now, choosing them from flowerless growths; they are severed beneath a joint about 3 inches from the apex, and are inserted singly in small pots filled with sandy soil. The pots are placed in a frame, kept closed for a few weeks. During winter the rooted cuttings are kept in a frame or greenhouse, and in spring, or in early autumn if well rooted, are repotted in 5-inch flower-pots. In due course most of them will pro-

duce one head of bloom, which may be considerably increased in size by watering weekly with liquid manure, or artificial fertiliser.

Amateurs usually prefer to grow a large plant which will produce many blooms, rather than a small plant carrying one large head of flowers. With the former object in view the top of the rooted cutting is taken off in spring to cause side shoots to develop, and during summer these in turn may be stopped to encourage the development of further branches. Such plants may be expected to bloom the following year.

Pruning Hydrangea.—The pruning of established Hydrangeas appears to be imperfectly understood by amateurs, and it is of some importance, since incorrect pruning may imperil the display. When a plant gets bare at the base, and unshapely, one season's bloom must be sacrificed in order to obtain a presentable plant, which can be done only by cutting back the shoots in spring. The fresh growths that follow will effect a great improvement in the shape and general health of the shrub, and may be expected to bloom the following year. Of regular pruning the Hydrangea needs little. In autumn, when the plants have finished blossoming, weak and obviously worthless shoots should be cut out, and in spring the remaining ones may be shortened slightly, if that seems necessary. One of the most important points in growing Hydrangea is to keep the plants always cool, and, during summer, to expose them freely to air and sunshine so that the shoots may become well ripened.

The Panicled Hydrangea (paniculata), which bears large pyramid-shaped heads of cream-white bloom in late summer, needs different treatment. It is grown out of doors, and a group of plants forms a handsome display in the garden. In February or early March the shoots of last year's growth are cut back to within 2 or 3 inches of their base if really fine heads of bloom are desired.

The Climbing Hydrangea (petiolaris) is a valuable shrub. It will thrive on a wall facing east or north and clings like Ivy, by means of aerial roots, though the branches need a little support at first. The bunches of white flowers, which open in summer, are attractive.

Seaside Gardens.—If there is one possession more than another of which one is disposed to envy owners of seaside gardens it is, I think, their hedges. The commonest hedge plant in gardens by the sea is the Japanese Euonymus, of which there are varieties with attractively variegated leaves. One is envious in this case, not so much of the shrub as of the way in which it thrives. In inland gardens Euonymus falls a prey to the grubs of the magpie moth, which appear in such numbers that the stems are soon stripped of their leaves, unless repressive measures are taken. It is curious that the Japanese Euonymus should be so badly disfigured by the magpie moth caterpillars while other shrubs near by remain untouched. The Monterey Cypress (Cupressus macrocarpa) forms a particularly handsome hedge; it is of quick growth and graceful form, of attractive green colouring, and bears light clipping well. The yellow-leaved variety of this Cypress is the most beautiful of all the so-called golden conifers.

Both shrubs will thrive in inland gardens, though they dislike the smoky atmosphere of the neighbourhood of large towns.

The common Tamarisk is the most graceful of hedge plants used in seaside districts. Though not difficult of cultivation inland, it seems to lack freedom away from the salt-laden air. The Afghan Tamarisk, called Pallasii rosea, forms an admirable lawn shrub, if several plants are grouped together in a large bed. The long, slender shoots bear racemes of soft pink blossoms in late summer. One of the finest shrubs now in bloom,

SNAKEROOT (CIMICIFUGA RACEMOSA)--A HANDSOME AUGUST FLOWER

BUSH OF OLD DOUBLE PINK PAEONY

though having no preference for seaside gardens, is Magnolia grandiflora. The large, handsome leaves are evergreen, and the big cream-white, cup-shaped blooms are deliciously fragrant. Unfortunately this Magnolia is not sufficiently hardy for planting in the open, except in warm sheltered gardens, but it is an ideal wall shrub, preferring a south or west aspect.

Shrubs with Coloured Foliage.—One may obtain showy effects in the garden by grouping certain shrubs with coloured foliage; if the kinds are chosen with care the colour scheme holds good from the opening of the leaves in spring until they fall in autumn. If planted in good soil they may be left undisturbed for years. The only attention they need is an occasional pruning to prevent overcrowding, and some care to keep the soil free from weeds, and the surface loose by hoeing. The principal colours available other than green are purple and the so-called gold and silver—all of which may be obtained in evergreen and leaf-losing kinds. The best golden-leaved evergreens are Golden Queen Holly, Elaeagnus Simonii, Tree Ivies and golden-leaved Euonymus. Of silvery-leaved shrubs there are Silver Queen Holly, Tree Ivy Silver Gem, Cotton Lavender (Santolina Chamaecyparissus) and Elaeagnus macrophylla. Among leaf-losing or deciduous shrubs rich purple is found in the Japanese Maples, the purple-leaved Nut, purple-leaved Barberry and the familiar Prunus Pissardi. Yellow or golden leaves are possessed by Catalpa bignonioides aurea, Acer Negundo aurea (a Maple), the golden-leaved Elderberry, Neillia opulifolia lutea and the yellow-leaved Mock Orange. Silver is represented by the leaves of the variegated Acer Negundo, Atriplex Halimus and Elaeagnus angustifolia.

Late-flowering Shrubs.—Shrubs that bloom towards the end of August are welcome, though they may be less showy than others that blossom earlier in the year. Of

those that are at their best at this period the St. John's Worts, or Hypericums, late Ceanothus and Heaths are prominent. But others are worthy of notice. The Syrian Mallow (Hibiscus syriacus), for instance, is covered with showy single or double flowers, white, blue, purple or red. Clerodendron trichotomum, a large bush from China and Japan, is another attractive shrub at this time. It grows 12 or 15 feet high, and is conspicuous by reason of its large heart-shaped leaves and flat heads of white flowers, which contrast finely with the red calyx lobes. There are certain Spiraeas, too, which call for notice, such as japonica, salicifolia and Menziesii. Ligustrum Quihoui is a white-flowered Privet now in bloom, while a showy red-flowered shrub is noticeable in Lespedeza bicolor. Caryopteris mastacanthus bears showy blue flowers during late August and September, and a companion plant is its white-flowered variety candicans. The tubular-flowered Clematis of the heraclaefolia class is resplendent with blue flowers, while various other kinds of Clematis are now in bloom.

A Useful Climber.—One of the most useful of quick growing climbing plants is burdened with the name of Polygonum baldschuanicum; it is now in flower for the second time this season, and one is reminded of its value in the garden. It forms long, slender shoots and makes an admirable screen in the course of a year or two. It is sometimes trained over evergreen trees, and there it looks especially well. Its shoots are not sufficiently vigorous to do the tree much harm, and against the dark foliage its bunches of creamy-white blossom in May, and again in late summer, show finely. A native plant, the Traveller's Joy (Clematis Vitalba), is equally noteworthy; it is of most rampant growth. It is now in full bloom, though its chief attractiveness will not be apparent until the silky fluffy fruits have developed. The Virgin's Bower (Clematis flammula) is another luxuriant climber bearing white, sweet-scented flowers at this season.

August—The Gardener's Holiday

In the Greenhouse

Now is the time to sow seeds of various annuals for cultivation in pots under glass. They will provide a welcome display in spring. Some of the most suitable are Mignonette, Clarkia, Schizanthus, Erysimum, Salpiglossis, and Winter Stocks. The seeds are sown thinly in boxes, and several seedlings are subsequently grown in a 5, 6, or 7-inch pot. Mignonette is best sown in the pots in which it will bloom.

The buds of Chrysanthemums ought to be "taken" this month; the work consists in removing the little shoots beneath the buds to be preserved. Freesia, Lachenalia, Roman Hyacinth, Paper White Narcissus, and Duc Van Thol Tulips if potted now will provide flowers in winter and early spring.

In the Kitchen Garden

In some districts the first fortnight in August is the favourite time to sow Cabbage for spring use. It is wise to sow late in July, and again the first or second week in August, for some of the seedlings may "bolt" to seed. Care should be taken to keep the seed-bed moist and to transplant the seedlings before they become crowded.

A further sowing of Prickly Spinach and Lettuce for winter supplies may now be made. Of Cos Lettuce the Black-seeded Cos is reliable, and of Cabbage varieties All the Year Round. Cauliflower seed sown now will provide plants for putting out of doors in April, to ensure an early supply. They must be protected during winter or be placed in a frame. Mid-season varieties of Potatoes are now ready for lifting and will be better out of the ground.

The tops of spring sown Onions which are still green should be bent over, to assist in the ripening of the bulbs These are lifted towards the end of the month, and placed on a sunny walk or, if the weather is wet, in a frame to dry.

Now is the time to sow seeds of Onions for use early next summer. Sow on firm ground in drills 9 or 10 inches apart. Giant Rocca is a useful variety. The early crop of Celery should be earthed up. Brussels Sprouts may be sown; the seedlings will be planted permanently in spring for a late summer crop. Herbs ought to be gathered and hung up in an airy shed to dry. To prevent Cauliflowers "turning in" at the same time, it is usual partially to lift some of them when the heads show; this disturbance of the roots has the effect of retarding them.

SEPTEMBER

Waning and Waking Flowers

AT the coming of September the flowers of high summer fade and fall, but there is recompense in the opening of others—Starwort or Michaelmas Daisy, Meadow Saffron, Torch Lily or Kniphofia, Chrysanthemum, Dahlia, Gladiolus, Monkshood, and autumn Rose. They scarcely arouse such enthusiasm as the first frail flowers of spring, or the fragrant blooms of dawning summer, but they are most welcome and prolong the charm of the garden until late autumn, when pressure of work provides the gardener's pleasure.

Among the Hardy Flowers

Autumn Roses. — Although many modern Roses do not compare in form and fragrance with some of the older ones, they compel admiration in autumn, when they are almost as gay as in high summer. So long as they continue to grow, so also do they continue to blossom; as the gardener, by little attentions, is able to assist growth, he too controls, to a considerable degree, the length of their flowering season. Some of the present-day Roses are scarcely ever out of bloom, for no sooner has a shoot produced its first flowers than it proceeds to form fresh growths, which in their turn bear blossom, and the Rose beds continue gay. Yet there are two well-defined periods of flowering, the first in July, and the second early in September. The advantage of cutting back in July the shoots that had flowered is now apparent, for the summer pruning has

induced the development of fresh strong growths which bear really beautiful flowers, scarcely less fine than those of July. Most of the Teas and Hybrid Teas bloom freely in autumn, but few of the Hybrid Perpetuals do so. Exceptions are Louis Van Houtte, Fisher Holmes, Frau Karl Druschki, Hugh Dickson, Captain Hayward and Senateur Vaisse. Even these are not to be compared with the H.T.'s and Teas for profusion of autumn bloom. A few especially valuable autumn Roses for the garden are Caroline Testout, Grace Darling, Pharisaer, Gustav Grünerwald, General McArthur, La Tosca, Betty, Madame Antoine Mari, Prince de Bulgarie, Madame Léon Pain, Marquise de Sinety, A. R. Goodwin, Lady Roberts, Lady Ashtown, and Grüss an Teplitz, though there are innumerable others among the Teas, Pernetianas and Hybrid Teas.

Note should be taken of those varieties that have suffered from mildew and black spot with a view to eradicating these diseases in winter. All diseased leaves that have fallen ought to be gathered and burnt. Mildew, which is usually most prevalent in autumn, may be checked by syringing the bushes with sulphide of potassium now. During winter it is advisable to remove a little of the surface soil and to replace this with fresh material; thus many disease spores are got rid of.

Bush Roses often produce long flowerless growths in late summer, and especially is this true of the Hybrid Perpetuals. If they are not long enough and strong enough to peg down, they ought to be shortened to about 2 feet. This pruning has the effect of strengthening the lower buds, and prevents the shoots being blown about. If they are not shortened or supported in some way, they cause the plant to sway during high winds, with the result that a hole is formed at its base, and water collects there. Should this have

A SATISFACTORY BED OF ONIONS

POTATO SENSATION

happened the shoots must be supported, and the holes filled up with fresh soil made firm.

It is important before autumn to make sure that the long shoots of climbing Roses are secured to their supports ; if they are left loose the stems become torn in windy weather, and many buds are ruined.

Autumn Pruning of Bush Roses. — Few amateurs pay much attention to the autumn pruning of bush Roses, though it is really essential to full success. Now is the time to cut out dead and weakly shoots, and to shorten long flowerless ones. It is best, in dealing with Hybrid Perpetuals, to cut out all except four or five of the best stems, and to shorten these partially if they are more than 2 feet long. This practice enables the lower part of the shoots to become properly matured, and the results the following season will fully justify the practice. It is, in fact, wise to cut out now, from all except tender Roses, such shoots as would be removed at the spring pruning. The remaining shoots will then be fully exposed to air and light. A bush crowded with small weak growths cannot be expected to yield a good harvest of bloom.

Violets in Winter.—It is quite easy to have Violets during winter if one lives in the country, but it is so difficult in urban and suburban gardens that the attempt is scarcely worth while. Owing to the absence of sunshine, and the impure atmosphere, the flower buds, even if they appear, often fail to open satisfactorily. In mild weather during winter Violets may be gathered out of doors in sheltered gardens, but the finest are obtained by means of the protection of a frame. A hotbed composed of half leaves and half manure, or of leaves alone, is made in the frame ; it should be about 2 feet deep when well trodden down. Upon the hotbed is placed 9 or 10 inches depth of soil, consisting of loam and leafmould, and in this the Violets raised last April, from layers or by division of the old plants, are firmly placed. As the bed

of leaves and soil will shrink to some extent, the plants ought almost to touch the glass at first. The frame need not be heated by means of hot-water pipes, though these are certainly advantageous, for with their help the atmosphere in the frame can be kept dry in dull, wet weather. The secrets of success are to keep the Violets perfectly cool, admitting air whenever the weather conditions render this advisable, and to give water only when the soil is fairly dry. In the absence of these precautions the leaves and flowers will "damp off" and the Violets will be a failure. Dead and decaying leaves should be picked off. A troublesome fungoid disease known as Viola rust sometimes attacks the plants, and its presence may be recognised by patches of orange-coloured rust on the foliage. Diseased leaves ought to be removed and the plants syringed with sulphide of potassium, ½ oz. in 1 gallon of water. It is possible to have Violets in early spring without going to the trouble of preparing a hotbed, though this is essential in most gardens to enable one to obtain winter Violets. If a frame is placed over the Violet bed out of doors, the plants will bloom earlier and the flowers will be finer. Some of the best Violets for winter cultivation in a frame are Marie Louise, double mauve-blue, Comte de Brazza, double white, and Lady Hume Campbell, double lavender-blue.

Making a Rock Garden.—In forming a rock garden it is essential to provide proper drainage unless the soil is so sandy or gravelly that it remains comparatively dry in winter. The site should be dug out to the depth of 12 inches and filled with broken bricks or such other material as will serve the same purpose. It is too much to ask that some cartloads of special soil mixture shall be made up, so the staple soil must be rendered suitable. If it is stiff and holds the water in winter it should be made lighter by the free admixture of grit, small pieces of sandstone or brick, lime rubble, and sand. As a further aid, prepared compost may be used immediately

around the plants when they are put in; this should consist of half loam and half leaf soil, with plenty of sand and grit. One can scarcely give explicit directions as to the arrangement of the rocks; it is not possible to advise the placing of one here and another there; their disposition must be left to the discernment and taste of the owner. But one may show what ought to be avoided. The stones should not be set up on end, they should not overhang each other, be wholly out of the soil or only slightly embedded, or set so that the rain and other moisture will fall away from the garden. The greater part of each stone ought to be covered with soil. The stones must be in position before the bulk of the soil; it is hopeless to attempt to fix them firmly by pressing them into the ground. When one rock is placed above another it should be set so far back that the edge does not overhang the rock beneath, and all should slope towards the bed of soil. There must be no empty spaces between the stones—every nook and cranny must be filled with soil made firm.

Transplanting Evergreens.—Evergreen trees and shrubs are more difficult to transplant successfully than deciduous or leaf-losing sorts; it is wise therefore to treat them with greater consideration. While it is possible to plant such as Rhododendron, Laurel, Aucuba, and other common evergreens with some success in mild weather during autumn and winter, if the work is undertaken during the latter half of September the risk of loss is negligible. With the choice evergreens, as, for example, Yew, Holly and Conifers generally, such care is of even greater importance. In remodelling a garden the disposition of evergreen trees and shrubs is a matter of great moment. Theirs is an influence that is exercised throughout the whole year; in winter the dense and often sombre foliage is in marked contrast to the frail outlines of the summer-leafing trees, and errors in arrangement

are then glaringly conspicuous. They are scarcely less so to the sensitive eye in high summer, for at that season the pleasure of a garden is found largely in contrasts and in harmonies of colour, which it is possible to create with trees and shrubs, as well as with plants and flowers. Whether one disposes evergreens with due regard to their proper place in the garden, or arranges them primarily for their value as screen trees, healthy specimens are alone of any use, and these are most likely to result from planting in September or early April. It is unwise to transplant, or to form a new plantation of large trees of choice evergreens, especially of Conifers; even if the greatest care is taken they are likely to deteriorate, and there are few shrubs less attractive than a shabby evergreen. Plants 2, 3 or 4 feet high are most suitable, and usually give little trouble if planted in well-prepared ground at the proper time. They should be thoroughly watered the day before planting and immediately afterwards. If the weather is dry, moistening the leaves daily with a syringe or hose, and giving occasional applications of water to the soil, will prove helpful. Should cold winds prevail, some protection by means of a rough screen ought to be given for a few weeks.

Lawn from Seed.—Although lawn grass seed is more commonly sown in late March and early April than in September, probably because most amateurs commence their gardening in spring rather than in autumn, I am convinced that September is the better month for this work. Seed sown in spring may germinate well, but the young grass often has comparatively warm and dry weather to contend with, and is checked when it ought to be making rapid progress. If this happens, and watering by means of the hose early in the season is not altogether beneficial, there is little prospect of a satisfactory sward the same year. It does not follow that spring sown seed will not prove successful, but I believe there is less risk of failure from a sowing in early September. If the days

are hot then, the nights are cool and dewy, and the seedling grass makes excellent progress, if less rapid than in spring. There is little danger of its being damaged by frost, if my experience is to be relied upon. On one occasion I was obliged to delay sowing down a lawn until the first week in November, and within three weeks of sowing there were several cold nights, on which 10° and 12° of frost were registered. I fully expected to be obliged to sow again in March or April, but December was mild and wet, the grass came up splendidly, and I had a better lawn the following year than I could have hoped for from a sowing in spring.

Renovating the Lawn.—As full instructions are given in the notes dealing with work in April, concerning the best method of sowing grass seed, there is no need to describe it now, but it may be worth while to give a little advice upon the renovation of a patchy lawn, a task that is no doubt undertaken more frequently than that of sowing a fresh one. I am convinced that it may be done more profitably now than in spring. It is necessary first to dig up the bare patches with fork or spade, to make the soil loose, and so form a good "seed bed." Nothing is more inimical to satisfactory germination than hard ground. If a thin scattering of wood ashes is spread over the lawn and raked in, a satisfactory start will have been made. A covering of sifted soil, an inch or more in thickness, is then scattered over the lawn and trodden down. Then follows the rake to make a level surface, and the seed is sown thickly, in both directions, from north to south, and from east to west, to ensure a full and even distribution. The seed is raked into the soil, which is then well rolled. Protection from birds is essential. The use of a preparation called Horticol, to be obtained from seedsmen, is said to have the effect of keeping away birds; a satisfactory plan when the area of ground is small is to stretch black thread over the surface by attaching it to small sticks.

Round the Year in the Garden

Planting Bulbs.—If the early bulbs referred to last month have not yet been planted they should be put in the ground without delay; otherwise the chances of their blossoming well in early spring are remote. Early planting is particularly essential with Snowdrop, Crocus, Winter Aconite, Anemones, bulbous Iris, Triteleia, or Star Flower of Spring, and others, to which fuller reference was made last month. Most amateurs are inclined to put bulbs too near the surface; a good average covering of soil for the smaller kinds is a depth of 2 inches.

In the Greenhouse

Pentstemon, Calceolaria and Viola Cuttings ought to be taken during this month to provide plants for next year's display. If only a few are required it is best to insert them in shallow boxes of sandy soil placed in a frame; when a large number is wanted a shallow bed of soil is made up in the frame, and the cuttings are dibbled in, some 2 inches apart. The soil is surfaced with sand before the cuttings are inserted, then, as the holes are made, sand falls in, and forms a base upon which the cuttings rest. The chief point of importance is to make the cuttings firm at the base, which is done by pressing the soil there with the dibber. The frame is kept closed for two or three weeks to facilitate the production of roots, but a little air must be admitted for half an hour or so each morning to get rid of the moisture that accumulates. If this precaution is not taken the cuttings are liable to "damp off." When rooted they must be given as much fresh air as the weather will allow. On fine, mild days the frame light ought to be removed altogether; when the weather is wet and mild it should be raised by means of a piece of wood. Unless the plants are kept perfectly cool, they will not remain sturdy. During severe frost it is advisable to cover the frame with a mat

Such is the orthodox treatment for these popular

plants, but it does not follow, as I have found, that less strict methods will prove unsuccessful. The cuttings of Viola and Pentstemon will form roots if placed in pots or boxes of sandy soil in an open frame, though they take rather longer to do so. Both are perfectly hardy plants at least in southern districts. In my garden, which is in Middlesex, I treat Pentstemons as hardy perennials, and they pass through the winter safely, although the soil is heavy and gets very wet. The shrubby Calceolaria, with which we are now concerned, is almost hardy, and a few degrees of frost will not harm the plants if they are comparatively dry in a frame. Watering must be practised with care during winter; the soil ought not to be moistened until it is dry. Water may not be needed for weeks together.

All greenhouse plants that have been out of doors or in a cold frame during summer ought to be brought under glass during the latter part of the month; such, for example, as Chrysanthemum, Zonal Pelargonium, Perpetual Carnation, and others. The greenhouse should be thoroughly cleansed in readiness for them.

In the Fruit and Kitchen Garden

One of the chief tasks of this month is that of lifting Potatoes as soon as the haulm has died down. If they are left in the ground, and wet weather sets in, they may start growing. If no shed is available in which to store them a "clamp" out of doors answers well. A shallow trench which will act as a drain is dug round the selected site; a ridge-shaped or conical heap of tubers is made and covered with a layer of straw, this being covered with soil made firm with the spade. A few wisps of straw are pulled through the soil for purposes of ventilation.

Cabbages for spring, which were raised from a sowing late in July or early August, should be planted now, the plants being put 12 inches apart in rows about 15 inches

from each other. The main crop of Celery is now ready for the first earthing. The leaves are first tied together; a little soot is scattered on the soil. As the soil is placed round the plants care should be taken to prevent its falling among the leaves. Cauliflowers sown last month to produce an early supply next year ought to be planted on a warm and sheltered border; a few might well be placed in a bed of soil in a frame. Those on the border must be protected by means of handlights or cloches in severe weather. Winter crops of Turnip, Spinach and Parsley need to be thinned. To obtain a winter supply of Parsley it is advisable to protect part of the bed by means of a frame on the approach of cold weather.

September is the month in which a Strawberry bed should be planted. The ground having been deeply dug and manured, the layers which were put down in July are now taken up and used to form the new bed. An excellent method of planting is to put the Strawberries 12 inches apart in rows 2 feet from each other. After one crop of fruit has been obtained, alternate plants are destroyed, thus leaving the remainder at 2 feet apart.

Early Apples and Pears ought now to be gathered Some of the latter, such, for example, as Jargonelle and Williams' Bon Chrêtien, must be used within a few days, for they cannot be kept long in a sound condition. Under glass all ripening fruits need an abundance of air; except in cold weather the ventilators should remain open night and day.

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